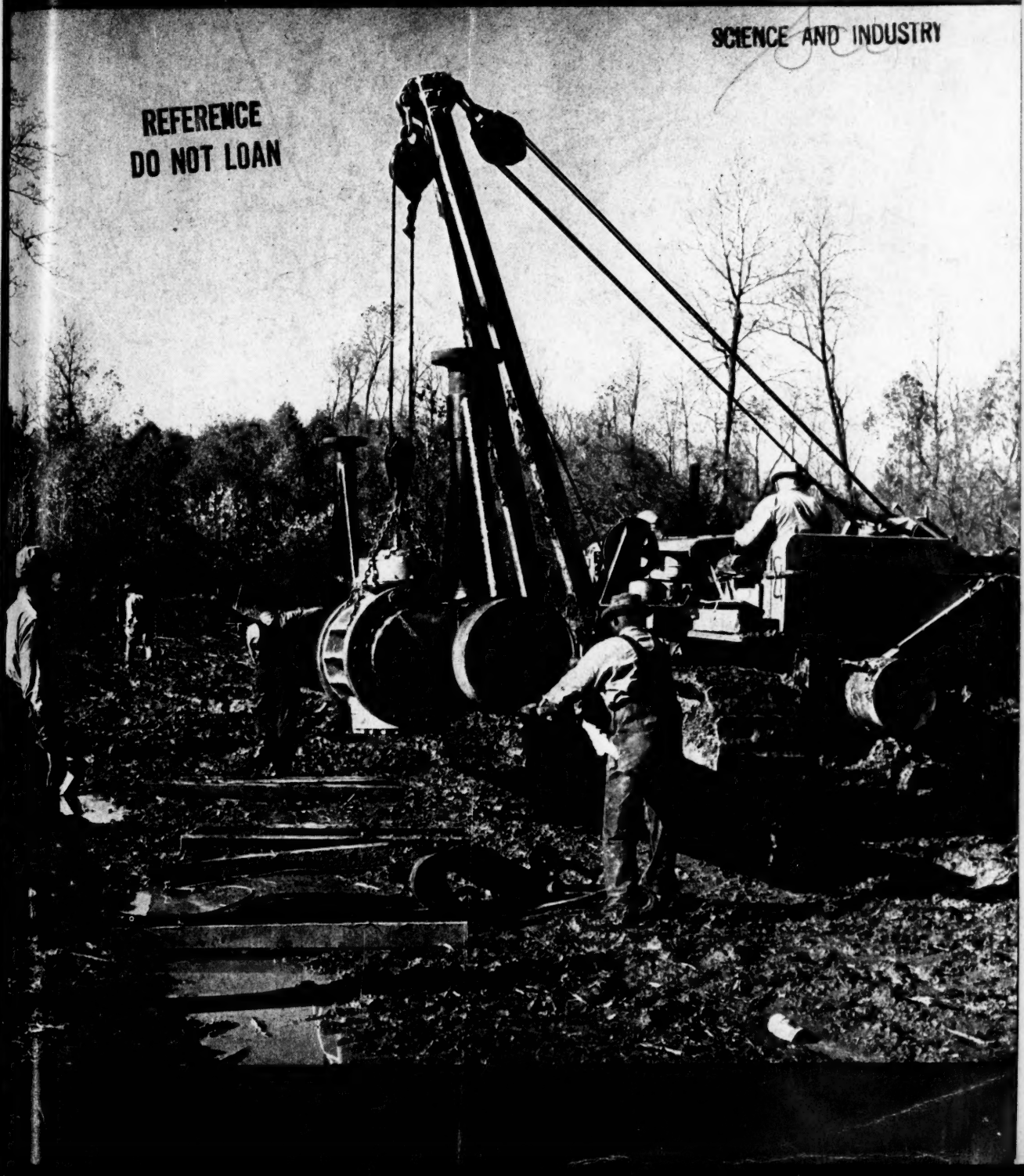
217
ANG[illegible] PUB

MANUFACTURERS Record

SCIENCE AND INDUSTRY

REFERENCE
DO NOT LOAN



A COMPLETE PACKAGING SERVICE!

PRECISION BUILT SET UP BOXES
FOLDING CARTONS SPIRAL WOUND
CONVOLUTE AND CORRUGATED

OLD DOMINION approaches your packaging professionally: a complete service that analyzes your product and problems, and scientifically solves them — assuring you the right box for the job. Whether you require set-up, spiral wound, corrugated or folding boxes, our packages offer the best features for shipping, safety, and selling. Old Dominion's forty years of experience, product research, and an able engineering staff, plus nine plants strategically located, are at your service.

OLD DOMINION *Box Company Inc.*

PLANTS LOCATED THROUGH THE SOUTH
NEW YORK REPRESENTATIVE
228 EAST 46th ST., NEW YORK 17, N. Y.

CHARLOTTE • N. CAROLINA

PRECISION BUILT PAPER BOXES AND PACKAGING MATERIAL

MANUFACTURERS RECORD

ESTABLISHED 1882

A Publication for Executives

Volume 115 **APRIL, 1946** **Number 4**

EDITORIALS

An Empty Bag 33
Controls Versus Production 34
Fair Words 34
A Dynamic Industry 35
Secret Pacts Un-American 35

ARTICLES

New Industry Holds Spotlight in Oklahoma City Reconversion —by Lester Penn 36
Absentee Management Looms as Cotton Mills Change Owners —by J. A. Daly 39
Two of Country's Four Plants Produce Helium in Texas 40
Little Shop with Big Stuff 42
Aluminum Industry Makes Ready for Peace Demands 44
First Train Radio Warning Device Tested 47
"No Job too Large, None too Small" 49
Southern Gins Handle Most of Country's Cotton Crop 50
The Industrial Research Institute 52
South's February Contracts Total $130,049,000 —by Samuel A. Lauver 54
Mississippi Yard Makes Diesel-Electric Locomotives 56
Federal Employes Grow in Number 18
Selective Placement 22
South Leads Nation in Forestry Studies 26
Latin America Offers Opportunity for the South 30

DEPARTMENTS

Little Grains of Sand 10
Southern Industrial Expansions 57
News from Industry 60
Index for Buyers 90
Index of Advertisers 92

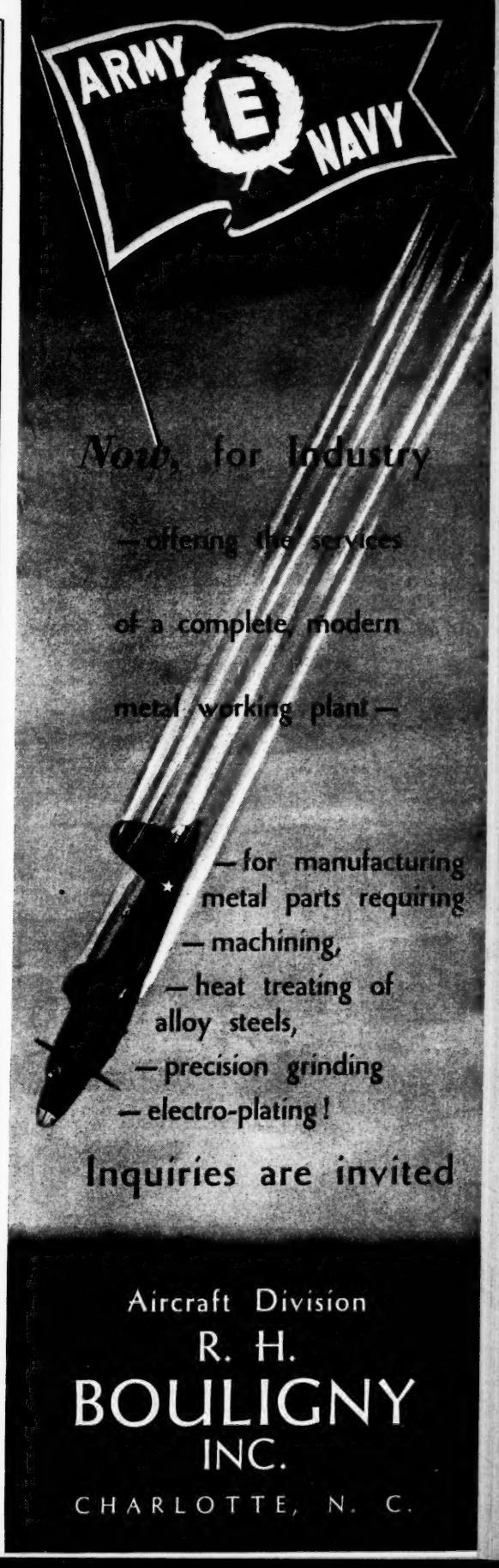
Cover Picture—Big valve being installed in the new Carthage-Sterlington route of United Gas Pipe Line Co. The valve itself weighs approximately 7,800 pounds, the entire assembly, 10,000 pounds.

MANUFACTURERS RECORD PUBLISHING CO.
Publishers of MANUFACTURERS RECORD, CONSTRUCTION (daily), CONSTRUCTION (monthly) and BLUE BOOK OF SOUTHERN PROGRESS.

FRANK GOULD - - - - - - - President
WM. M. BEURY - - - - Vice President and Editor
LT. COL. R. LISLE GOULD - - (U.S.A.A.F.) Sec. and Treas.
C. J. O'DONNELL - - - - - Asst. Sec. and Asst. Treas.
H. B. FRENCH - - - - - Advertising Manager

Main Office: 109 Market Place, Baltimore 3, Md.
Phone: LExington 7065

BRANCH OFFICES:
New York (7)—233 Broadway, Room 1520, Phone: Whitehall 4-3413
Chicago (4)—28 East Jackson Blvd., Room 712, 'Phone: Harrison 5867.
Charlotte, N. C.—Sharon Hills Road, Route 2, 'Phone 3-3076.
Cleveland (15)—326 Bulkley Bldg., 'Phone Main 9357.
Subscription Rates: One Year $3.00. Two Years $5.00.
Single Copies 25c, back numbers over 3 months old 50c.



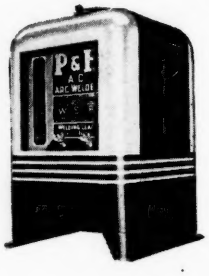
FOR QUICK, SLICK WELDING JOBS

In production welding — in small welding shops — everywhere it is used, AC-3 quickly wins preference for ease of handling.

AC-3 welds fast . . . lays in smooth, flat beads. Its spray-type arc gives medium penetration — eliminates thin gauge "blow-throughs." Here in one electrode are all the features you want for welding light gauge or heavy steels.

Slag removal is easy — it virtually "curls off." It's used on both AC or DC for all-position work. And with it, you can weld *lighter* metals with *larger* electrodes — you can obtain far greater production. Distortion and under-cutting are at an absolute minimum. Its weld metal seals quickly, making it ideal for poor fits and bridging gaps. Start now to let P&H "AC-3" cut your costs and improve the appearance of your product.

In addition to a line of simplified DC welders, P&H's AC welders range up to 1250 amperes. Each is equipped with creep-proof, micromatic control: WSR (Welding Service Range) ratings specifying the exact amount of *usable* welding current from minimum to maximum. Shown here is the model TWH 500 with a service range of 100 to 625 amperes.



FOR EVERY MILD STEEL REQUIREMENT

There's a production-proved P&H mild steel electrode for every requirement. This partial list shows many that are popular with foremost industries doing large scale-production welding. Get complete information.

SEE YOUR P&H REPRESENTATIVE

"AP"	– AWS – E-6010
"AC-1"	– AWS – E-6011
"PF"	– AWS – E-6012
"AC-3"	– AWS – E-6013
"FW"	– AWS – E-6020
"DH-2"	– AWS – E-6020
"CM-50"	– AWS – E-7011
"AW-4"	– AWS – E-10012
"AW-2C"	– AWS – E-10020

P&H also has a complete line of Electrodes for welding stainless and alloy steels, as well as for hard surfacing.

P&H WELDING ELECTRODES

4427 West National Avenue,
Milwaukee 14, Wisconsin

HARNISCHFEGER CORPORATION

WELDING ELECTRODES • MOTORS • HOISTS P&H ELECTRIC CRANES • ARC WELDERS • EXCAVATORS

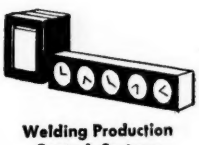
AMERICA'S MOST COMPLETE ARC WELDING SERVICE.

DC Welders

AC Welders

Welding Electrodes

Welding Positioners



Welding Production Control Systems

Electric Hoists

★ ★ ★ ★ ★ LITTLE GRAINS OF SAND ★ ★ ★ ★ ★

"Little drops of water, little grains of sand,
Make the mighty ocean, and the pleasant land."

The statement that without labor there would be no industry is accurate so far as it goes, but it tends to be misleading. The true picture is painted by Carl Snyder, in *Capitalism The Creator*. Mr. Snyder points out that "the output of electric power in the United States exceeds a hundred billion kilowatt hours a year. This in terms of 'labor' or human effort equals the human power of half a billion men, working eight hours a day. That is ten times the working population of the country, fifty times the number of persons employed in manufacturing and 2500 times the number employed in electric power production." Labor may operate the electric power plants, but without the creative influence of capital there would be no power plants to operate.

One of the bases for the agreement finally reached by General Motors and the U.A.W. was the matter of the membership maintenance clause. It was agreed that, for the duration of the contract, any employee of General Motors could resign from the U.A.W. without prejudicing his job in any way, *but* that his union dues would continue to be collected by the company and turned over to the union. We are reminded of the story of the woman who was persuaded to join a temperance organization. As she was signing the papers, she told the canvasser that she liked to have a cocktail or two before dinner, and that she had no intention of giving them up. "Oh, that's all right," was the rejoinder. "We don't care if you drink; all we want is your money."

American business, and American business alone, has been responsible over a long period of years for a standard of living in this country second to none. This has been made possible by the incentive of profits, an incentive which makes for large-scale, low-cost production, higher wages and inexpensive products.

If business as we know it is to survive, capital must be assured of an opportunity to realize fair return. If taxes, plus an insistence on a high wage rate without rise in prices, continue to cut deeply into legitimate profit, all business incentive will be removed. Management will refuse to gamble with expansion and new production methods. Individual citizens, with no prospect of returns, will cease investing their savings in creative enterprise.

This can have but one result—the drying up of private enterprise. Government will be found taking over the business of the nation, and we will have a totalitarian economy. Unfortunately, this is no news to the economic planners in Washington; there are entirely too many of them who joyfully anticipate just that state of affairs.

Of an average business organization's income, after materials and other fixed costs, which gets more, capital or labor? What percentage does each get?

According to Samuel Pettigill, as syndicated by *America's Future*, that question was asked in a recent public opinion poll. 72% of those who answered stated their belief that capital takes more than half, and labor less than half.

Yet the economic Almanac for 1944-45 shows that, after materials and other fixed costs were deducted from income, labor received 84.7% and capital but 15.3% (which was subject to taxes) in the year 1939. Out of this 15.3% came investments in expansion.

There's nothing wrong with the above division except the fact that all too few people are aware of it. Wide knowledge of this state of affairs would not and should not cause the public to pity management; management neither asks nor needs such pity. It would, however, reduce the rantings of many labor leaders to the proper status of Shakespeare's tale "told by an idiot—full of sound and fury, signifying nothing."

Before we leave that 1939 division of income—labor, 84.7%; management, 15.3%—let's see exactly how Mr. Walter Reuther measures up to the Shakespearean yardstick. His original demand from General Motors was for a 30% blanket wage increase, with no rise in prices. 30% of 84.7% comes to approximately 25.4% more of the total income that Mr. Reuther thought labor should receive, with all other factors remaining constant. Labor, therefore, was to receive more than 110% of GM's income. Former heavyweight champion Max Baer's excuse for selling more than

(*Continued on page* 14)

"I VIGOROUSLY dissent from any theory that the law means whatever the judges say it means, if that is interpreted to let the judge by legal 'double-talk' to read into the law his personal, political, social or economic theories. Constitutional law means what the people wrote and intended; statute law means what the legislative body wrote and intended; and the common law means what the people of the trade or community accepted and practiced. The function of the judge is to determine what that law is, and to apply it to the facts of the case before him, and he is no judge but a partisan if he changes either the law or the facts to suit his own notions or those of anyone else."

David A. Simmons, Pres., Amer. Bar Assn., in The Exchangite.

A few of the Many THOUSANDS of USES for Youngstown Wire

Annealed Wires
Armor Wire: Armoring Wire
Axle Wire

Bail Wire
Bale Tie Wire
Baling Wire
Ball Pin Wire
Bed Rods
Bessemer Spring Wire
Bicycle Chain Stud Stock
Bicycle Spoke Wire
Binding Wire
Bolt and Rivet Wire
Bookbinder Wire
Bottle Handle Wire
Bottling Wire
Box Binding Wire
Box Hinge Wire
Brick Cutting Wire
Broom Wire
Brush Wire
Buckle Wire
Bundling Wire

Cable Armor Wire
Cap Screw Wire
Car Heater Wire
Car Seat Wire
Cast Steel Wire
Ceiling Hook Wire
Chain Welding Wire
Chain Wire
Chair Rods
Chair Wire
Channel Bead Wire
Channel Pin Wire
Check Rower Wire
Clasp Wire
Clip Wire
Clothes Line Wire
Clothes Pin Wire
Coat and Hat Hook Wire
Coppered Wire
Core Wire
Cork Screw Wire
Crimping Wire
Croquet Arch Wire
Curry Comb Wire
Curtain Rods

Damper Rods
Double Clinch Wire
Dowel Wire
Duck Bill Nail Wire

Eave Trough Hanger Wire
Edge Wire

Fence Wire
Ferrule Wire
Firing Pin Wire
Flesh Fork Wire
Fruit Jar Wire
Fuse Wire

Garment Hanger Wire
Gate Hook Wire
Grape Tie Wire
Grass Catcher Wire
Guard Wire

Hairpin Wire
Handle Wire
Harness Snap Wire
Hat and Coat Hook Wire
Hat Rods
Hog Ring Wire
Hook and Eye Wire
Hoop Wire
Hose Binding Wire
Husking Pin Wire

Key Wire
Key Ring Wire
Key Stock
Keystone Wire

Lacing Wire
Lantern Wire
Lathing Wire
Link Wire

Machinery Wire
Machine Screw Stock
Market Wire
Mat Border Rods
Mat Wire
Muzzle Wire

Nail Head Wire
Nail Wire
Neck Wire
Neck Yoke Ring Wire
Netting Wire
Nut Crack Steel

Oven Rack Wire

Pail Bail Wire
Pail Rim Wire
Piano Bolt Wire
Piano Rods
Pin Wire
Pivot Wire
Pipe Winding Wire
Plunger Wire
Pot Chain Wire
Poultry Netting
Pump Chain Wire

Rake Tooth Wire
Refrigerator Shelf Wire
Reinforcement Wire
Riveting Wire
Rivet Rods
Rivet Wire
Rope Wire

Saddle Spring Wire
Scratch Brush Wire
Screen Wire
Screw Wire
Screw Driver Wire
Shade Roller Wire
Shelf Wire
Snare Wire
Spiral Hooping
Spoke Wire
Spring Wire
Stitching Wire
Stone Wire
Stove Bolt Wire
Stove Rods
Stud Stock
Sucker Rods
Surveyors' Chain Wire

Towel Rods
Trap Spring Wire
Transom Rods
Trellis Wire
Tuning Pin Wire

Wash Boiler Wire
Welding Wire
Whip Guard Wire
Wood Screw Wire
Wrapping Wire

THIS check list can help the user of Manufacturer's Wire in two ways: *First*, it tells you quickly some of the kinds of wire you can get from Youngstown--the kinds we are in position to produce now. *Second*, this finding list may suggest new products you can make from Youngstown wire, to keep your plant busy and increase sales volume.

Made from special steel refined in our own open hearth furnaces, Youngstown wire is drawn to exact specifications determined by the use to which the wire is to be put. Because this end use is so important, we suggest that you call in a Youngstown representative to discuss your requirements. With a sample of the wire you are using now or wish to use, representing the finish and physical properties desired, and information as to the product, he can better advise you on deliveries and prices, also, perhaps, offer other helpful suggestions. Write, wire or phone your inquiry.

YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY

YOUNGSTOWN 1, OHIO

Export Office . . . 500 Fifth Ave., New York

Manufacturers of

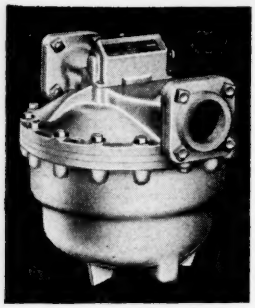
CARBON · ALLOY AND YOLOY STEELS

Wire-Nails-Bars-Rods-Sheets-Plates-Conduit Pipe and Tubular Products-Electrolytic Tin Plate-Coke Tin Plate-Tie Plates and Spikes

BOWSER
ESTABLISHED 1885

WHEREVER LIQUIDS ARE HANDLED . . . .

THERE'S A NEED FOR BOWSER EQUIPMENT . . . for metering, filtering, distilling, pumping, fueling, lubricating, storing or dispensing.



BOWSER

METERS . . . .

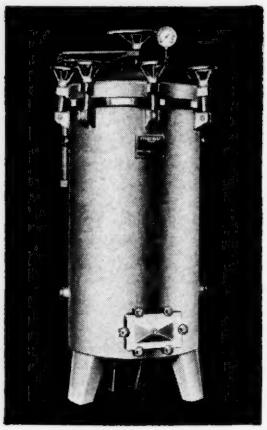
The Bowser Xacto . . . long known as "the world's most widely used meter" . . . is a positive displacement meter of extreme accuracy for recording of liquid transfer operations.

It is made in many standard types and for special applications. In accuracy Xacto meters exceed all Federal and State requirements.

BOWSER

FILTERS . . . .

The Bowser line of filters covers standard applications in a large group of industries. Monel screen, cloth, cellulose fiber or diatomaceous earth filters are furnished in a wide range of capacities for most liquids.

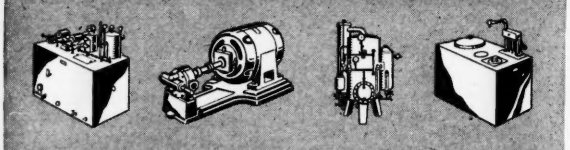


SALES AND SERVICE

The Bowser Sales and Service System makes the Bowser man your next-door neighbor. Your present metering, filtering or other liquid handling problems will receive our prompt attention.

Write Bowser, Inc., 1337 Creighton, Ave.
Fort Wayne 2, Indiana.

LIQUID CONTROL SPECIALISTS SINCE 1885



LUBRICATORS PUMPS VACUUM STILLS STORING AND DISPENSING

(*Continued from page* 10)

one hundred per cent of his contract was that he thought a man owned a thousand per cent of himself. Of what does Mr. Reuther have one thousand per cent ownership—management, men, or mice?

In the 1944 national election, the CIO Political Action Committee published millions of copies of a pamphlet which opened with the inspiring words: "Politics is the science of who gets what, why and how." Since that time the CIO has amply demonstrated that the "why and how" is a fairly simple proposition as expressed by the old adage, "the wheel that squeaks the loudest gets the grease." That is why a strongly organized minority can get away with murder when it comes to slicing up the pie.

Able statesmen should be able to ignore such minorities when their wishes run contrary to the common will and the common good. The rights of a minority should be protected; equal opportunities should be guaranteed all minorities. But the tail shouldn't be allowed to wag the dog.

If a child has measles and you cover his face with grease paint, he might seem at a glance like a healthy child, but the most cursory examination would reveal the true state of affairs. Thus it is with inflation and the OPA. Inflation is an established fact; there is an over-supply of money, and an undersupply of goods. Price ceilings cannot erase this situation. There is nothing that will satisfy demand except supply. Grease paint is no substitute for health, nor is a ceiling price on a non-existent product a pacifier for the need that that product will satisfy.

Few outside of the railroad industry realize it, but for half the time between our two great wars, it cost the railroads more to carry a passenger than the passenger paid in fare. Railroads steadily lost money on their passenger departments from 1930 through 1941. The vastly increased revenue of wartime pulled them out of the hole.

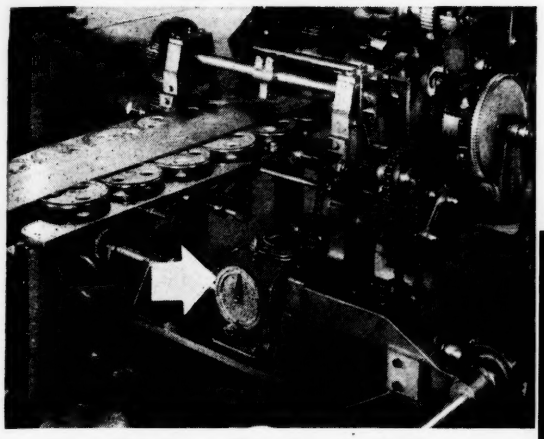
How to avoid a similar slump in the postwar years is one of the major problems faced by railroads today. Part of the answer seems to lie in increased passenger comfort and convenience; at least that's the assumption on which railroad management is acting. Faster and more luxurious accommodations are starting to make their appearance, with major roadbed improvements scheduled for the near future.

Where are those stockings? If you don't care, your wife does, and the OPA has finally condescended to tell us. It seems that the Bowles boys thought there would be plenty of nylon stockings. Accordingly, they cancelled the allotment of rayon to the hosiery mills. Then the nylon thread didn't come through. You see every day where that leaves the girls—barelegged.

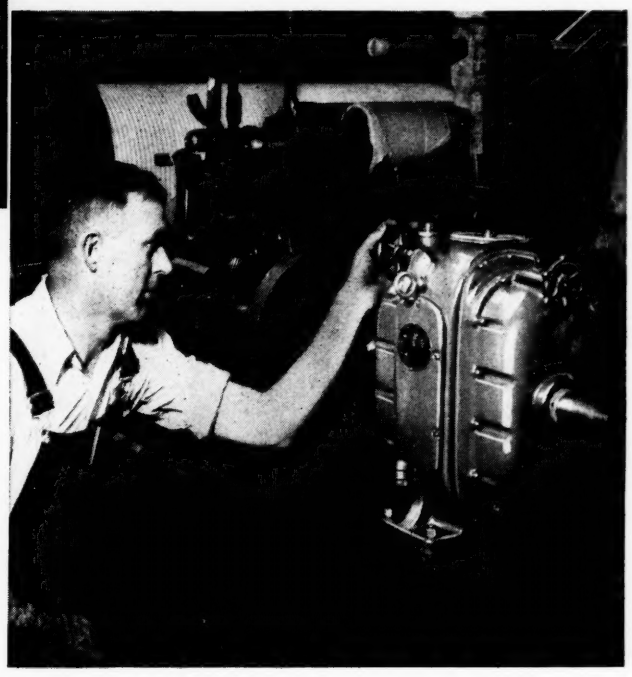
(*Continued on page* 68)

WHERE *Accurate Speed*

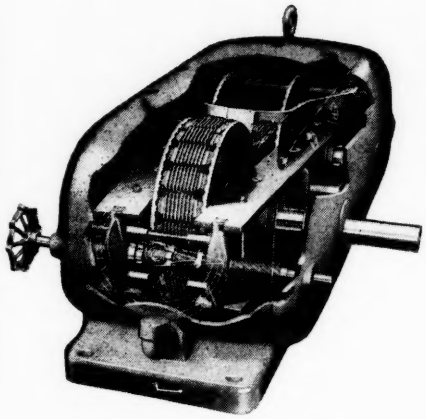
GOVERNS QUALITY, LINK-BELT P.I.V. GEAR *is the Answer!*



Above: P.I.V. Gear on Weber Paper Bag Machine regulates the speed of the cutting-off device, which determines the exact length of bag.



Right: Link-Belt P.I.V. Gear applies to slasher. In mills where P.I.V. Gears have been applied for stretch control on slashers, tests show that the yarn retains its elasticity after slashing. Tests made in the weave room of one mill showed an increase in loom production due to less breaks and fewer loom stops. Production reports for weaving before P.I.V. was installed, showed 91.5%. After the change-over to P.I.V. slasher stretch control, the report showed 93.5% or an increase of 2%.



Get any speed instantly—maintain it accurately with this positive, infinitely variable speed changing unit.

Products and processes may differ widely, but if precise speed is a factor in the result, the same unique P.I.V. Gear speed changer will furnish the means. With this unit, power is transmitted positively through an all-metal chain, making tooth-to-tooth contact with metal wheels. Speeds can be varied infinitely within full range of the unit, and once selected, the chosen speed is maintained accurately. Speed is changed while the drive is running by a small handwheel, or by automatic or remote control.

Precise positive speed control in any type of industrial application can be obtained by means of the P.I.V. Gear. Built in a wide range of sizes and types, fully described in Book 1874. Send for a copy.

LINK-BELT COMPANY

Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Dallas 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities.

10.209

LINK-BELT P.I.V. GEAR

POSITIVE INFINITELY VARIABLE SPEED CONTROL

A GOOD EXECUTIVE DOESN'T WORRY...

about every complex detail of his business. He selects qualified specialists—attorneys, engineers, doctors—relies on professional advice.

Many modern executives don't worry about their complex insurance problems either. They rely on Insurers Service Corporation.

Our staff of professional insurance specialists works for you—functions as your insurance department. Our clients have no insurance worries—they know they are adequately protected and at the lowest possible cost.

Write for a more detailed explanation, no obligation of course.

ANALYSTS OF INSURANCE PROBLEMS

Insurers Service Corporation

ST. LOUIS 2, 320 N. FOURTH ST.
NEW ORLEANS 12, CANAL BUILDING

E. L. WERNER, PRES. • ELMER D. ENGLISH, SECY.
CHARTERED PROPERTY CASUALTY UNDERWRITERS

Federal Employees Up

The Joint Committee on Reduction of Nonessential Federal Expenditures, headed by Senator Byrd of Virginia, has revealed in its latest monthly report that civilian Government employees, exclusive of War Department employees outside the United States, increased 2,423 during January, making a total of 2,511,158 during that month.

The Committee, which is endeavoring to eliminate excess government employees as one method of carrying out the mission stated in its name, stated in its report the following changes in government employment in January:

"Exclusive of War Department, Navy Department and the National War Agencies, the remaining 41 agencies had a net increase of 34,569 employees during the month. Within this group, 31 agencies increased their personnel during the month and 9 effected reductions. One showed no change. The agencies which had increases in employment were Veterans' Administration with 13,426; Treasury Department with 7,444; Post Office Department with 6,144; Reconstruction Finance Corporation with 3,103; Commerce Department with 2,508; Interior Department with 1,163; and Labor Department with 1,163.

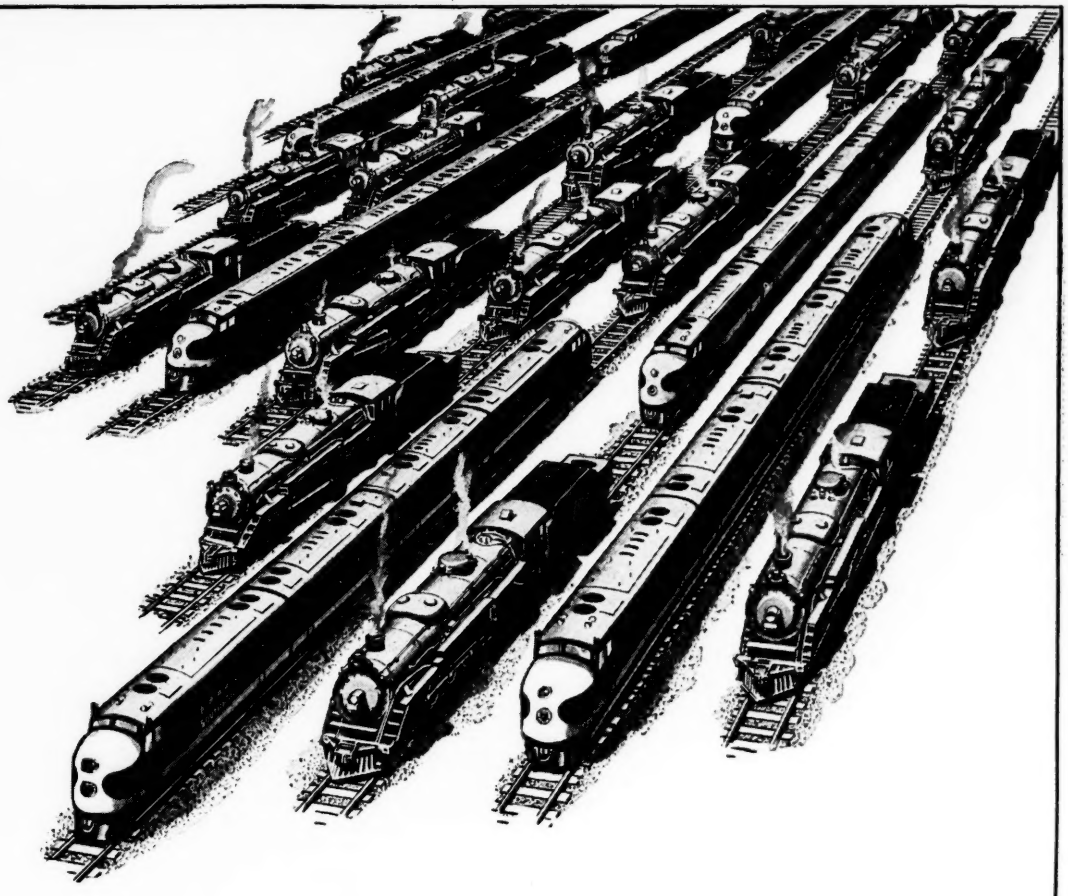
"The largest decreases were in the State Department with 339; Federal Communications Commission with 151; Maritime Commission with 327; National Advisory Commission for Aeronautics with 215; Panama Canal with 1,067, and Tennessee Valley Authority with 228.

"With respect to the war agencies, War and Navy Departments effected a reduction of 50,538 within the continental United States and a net reduction of 188,075 outside the continental United States. The remaining agencies released a total of 4,201 employees."

Senator Byrd pointed out that, omitting reductions in the War and Navy Departments, 30,368 employees were added to the government payroll. Continues the Senator:

"Such a trend must not be lightly dismissed. It is realized that the federal government must reemploy as rapidly as possible veterans who are expected to return to their former positions. This, in turn, should allow for a reduction in war service appointees. The placement of veterans is a recognized responsibility; whereas the shifting of displaced war-service employees to other units, such as is now taking place, is an assumed responsibility which undoubtedly was not anticipated by Congress.

"These thousands of war-service employees were given indefinite appointments for the duration and six months, or until their jobs were abolished. The nature of their appointments was understood and accepted. While one may believe that they were patriotic and should be rewarded for their services, one must also recall the fact that there was very little 'business as usual' for these people to turn to during the war emergency, and thus that they were frequently prompted by self-interest as well as patriotism."



POWER PLANTS
—to help you run your factory

Wheeled power plants like these will be pulling for you...helping to run your factory ... when you build it in the territory served by the 8,000-mile Southern Railway System.

How? By hauling supplies and raw materials to your factory door. By taking your finished products to distributing centers and markets. By pulling for you... proudly and eagerly... day and night . . . in all kinds of weather.

Last year alone, 148 new industries came to live and grow along our railway. They are experiencing the benefits of mild climate, plentiful raw materials, abundant low-cost power and fuel, ample reserves of skilled and unskilled workers . . . and a huge consumer market in the fast-growing Southland.

They are benefiting, too, from the dependable, efficient, economical, mass transportation service symbolized by the more than 1,600 steam and Diesel locomotives of the Southern Railway System.

To assure these advantages for your factory, *"Look Ahead—Look South!"*

Ernest E. Norris
President

LOOK SOUTH LOOK AHEAD

SOUTHERN RAILWAY SYSTEM

The Southern Serves the South

PEERLESS PUMPS

UPON THE STRONG, GREATER STRENGTH IS BESTOWED

A Statement by FOOD MACHINERY CORPORATION in regard to *Dayton-Dowd*

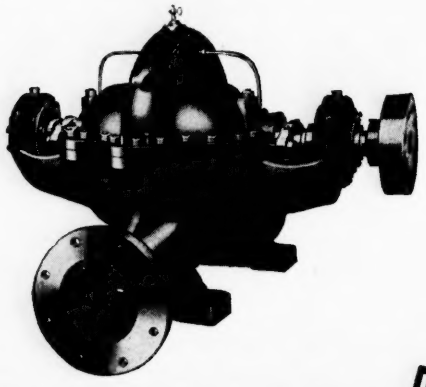
An important advance in the history of the pumping industry now makes available a new conception of integrated pump service to customers.

Dayton-Dowd, long associated with sustained high quality—a distinguished name on centrifugal pumps—has become an integral part of the Peerless Pump organization.

To the prestige and enviable reputation of *Dayton-Dowd* have opened new horizons of progress and wider scope for service by alliance with the nation-wide facilities of *Food Machinery Corporation.*

Thus, to purchasers of both Horizontal and Vertical centrifugal pumps is available the coordinated engineering and research leadership that produced the FMC *"Water Buffalo"*—the first battle-proved amph-trac. This merger of broad installation-wise experience, modern technical research and alert engineering talent assures our customers for all types of pumps that the name *Peerless* stands as the guarantee for quality and progress.

PEERLESS HORIZONTAL PUMPS
-formerly Dayton-Dowd



PEERLESS PUMP DIV.—FOOD MACHINERY CORP.
Factories: Los Angeles, Calif., Quincy, Ill., Canton, O.

F.M.C. builds with STEEL

WAR-TIME BUILDERS OF THE VICTORIOUS "WATER BUFFALO"
PEACE-TIME BUILDERS OF TOP-FLIGHT WATER PUMPS

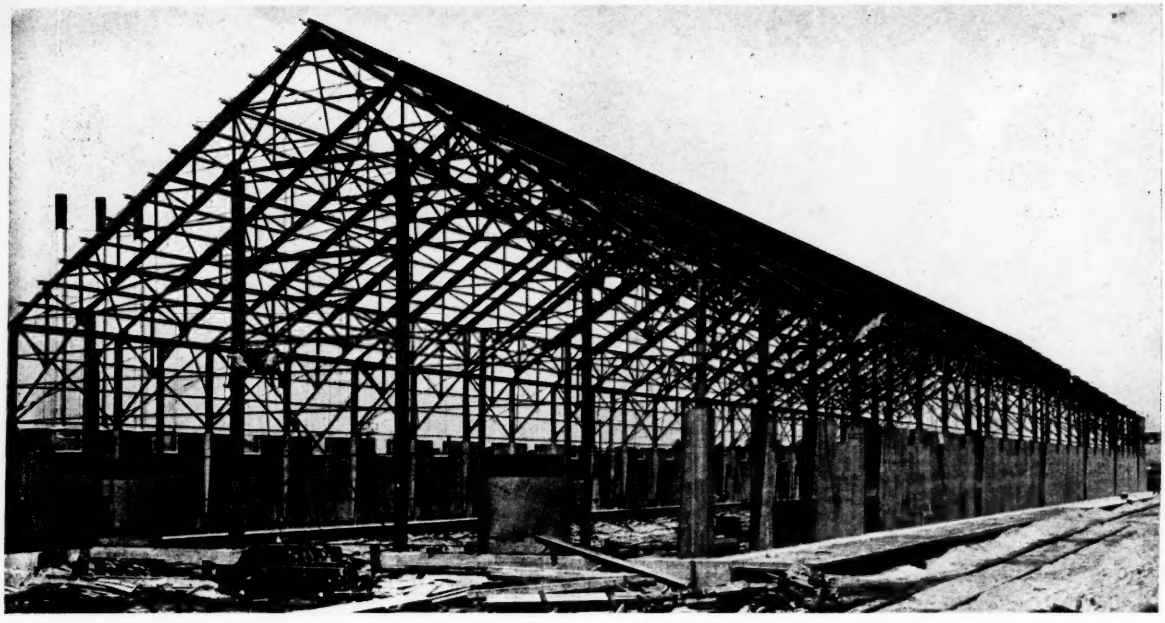
Selective Placement

The growing realization on the part of industrial personnel management that no person is free from physical handicaps will prove to be a boon to handicapped war veterans. Personnel specialists, aided by medical experts, have come to learn the long-standing truth that physical shortcomings are of a universal nature. Every individual has them. None has the skill to do all things. The job is to fit the worker to the job.

A change in employment attitude has come with the knowledge. A new department in employment science has taken its place in hiring procedure. It is known as Selective Placement. By the new technique, individuals are rated in terms of ability rather than in terms of inability. It has already enabled the useful and contented placement in industry of thousands of American fighters injured in action who would have gone into the discard in earlier eras. It bodes well for those veterans still to return to civilian activity and to hundreds of thousands of others who for one reason or another may have become partially impaired for complete physical functioning.

The key to success for selective placement probably rests in final analysis with the foreman or supervisor under whom a handicapped person is placed at work. Emotional as well as physical disability accompanies impaired ability to function. It is important that worry and feeling of insecurity be removed from the handicapped person's mind. It is important that individuals be made to realize their responsibility toward their impairment, without, however, too much accordance of sympathy or unsought advice. It is likely that foremen will need to become more frequent consultants of medical experts and to apply information thus gained in day to day observation of handicapped persons under their supervision. By so doing they will be able to make accurate determination of each individual's physical and mental abilities, as well as disabilities. They will become adept in analysis of the characteristics and physical demands of specific jobs or related job families. They will become proficient in matching individual physique, aptitude, skills, interests and attitudes with job requirements.

Indiscriminate placement of handicapped persons merely for the sake of making jobs would be worse than no placement at all. A worker should be able to meet the physical demands of the job. He must not be placed in a job where his impairment lays him liable to hazard of injury. The safety of others must not be jeopardized. The worker should not be placed in a position where harmful agents of any kind may tend to aggravate the handicap. These and other considerations, involving careful and constant scrutiny of the handicapped worker on his new job, make the foreman the logical arbiter of initial and continued placement.



Warehouse Building erected for the Alabama State Docks, Mobile

READY for the Big Jobs ahead

The Army-Navy "E" with two stars was awarded for quality and speed of production.

The construction program in the South has scarcely got underway yet. It is going to be the biggest ever seen in the area.

Steel will be needed for all major jobs, steel in large quantity, steel accurately fabricated. And that's what we have. We're ready!

Our modern steel fabricating plant and our staff of competent engineers are at the service of contractors and builders.

SOUTHERN STEEL WORKS

KIRKMAN O'NEAL, *President*

Offices: 745 NORTH 41st STREET, BIRMINGHAM, ALABAMA

GET THEM ALL

WHEN you select the location for your new plant, be sure that you locate where there are to be found the greatest number of factors contributing to successful operation.

How to be certain? Use the services of our staff of trained specialists. Possessing long experience in the many matters associated with industrial locations, they can quickly supply you with pertinent and comprehensive data on sites that will meet your requirements.

And there are many excellent sites in the six states served by the Seaboard Air Line Railway awaiting your inspection and approval.

Our services are confidential and your request will entail no obligation on your part. Simply address:

Dallas T. Daily, *General Industrial Agent*
Seaboard Air Line Railway **Norfolk 10, Virginia**

SEABOARD
AIR LINE RAILWAY
THROUGH THE HEART OF THE SOUTH

South Leads Nation in Forestry Study

The entire nation may soon follow the South's successful lead in establishing forestry experimental stations.

The project, originated but a few years ago by a group of Southern representatives in Congress when they obtained a $300,000 appropriation, called for eleven of these stations. Those units already in operation come under the supervision of the Asheville, N. C., Appalachian station or the New Orleans Southern Forest station.

The activity is still in its infancy, yet it has elicited keen interest among Congressional representatives of other sections. Southerners in Congress have expressed the belief that the additional $1,000,000 which they seek will be doubled, with part to be allotted to other sections.

Great progress has been made recently in finding diversified uses for wood products in new as well as old fields of activity; thanks in large part to the promotion and inspiration of the Southern experiment stations.

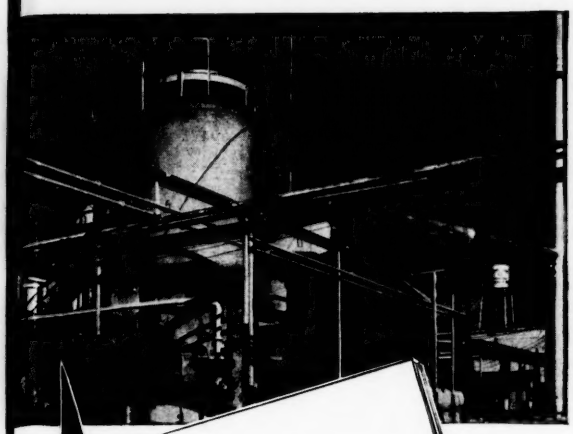
It is only in recent years that such useful wood by-products as adhesives, cymene, fatty acids, mordants, road binders, cellophane, photographic film, boiler compounds, certain dyes, a form of yeast, paint remover, rayon, ethyl alcohol, plastics, explosives and viscose acetate have been obtainable from wood.

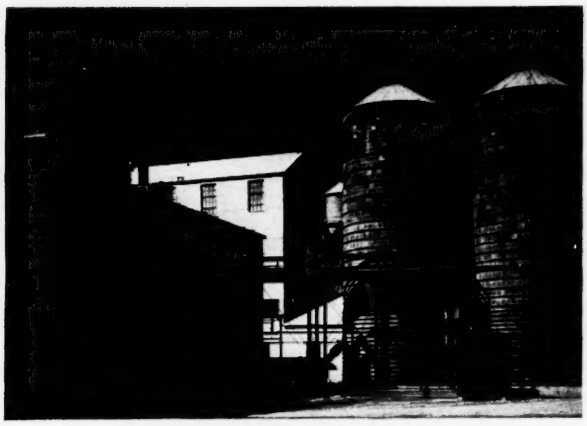
The stations are actively engaged in such useful experiments as those seeking to determine the best species of oaks, pines and other trees to grow on certain soils and to be grown for special purposes. Among other things they have discovered that the flow of pitch from pine trees may be greatly increased by the application of appropriate chemicals; that limbs, stumps, edgings and sawdust may be utilized profitably in the production of a number of valuable materials. They have demonstrated that the scrubbiest of oaks can be transformed into the highest quality of wall board.

They have worked out scientific charts for the spacing of second growth timber and the proper intervals at which timber should be cut to perpetuate a never-ending growth and supply. By the methods worked out, it has demonstrated that woodland can be made to produce an annual income of not less than four dollars an acre.

With its over 180 million acres of timberland, involving an investment of nearly three billion dollars, the South has an important interest at stake in its forests. Southerners may well take pride in the knowledge that their Congressional representatives are alive to the needs and possibilities of their section.

ETTING ACQUAINTED WITH TEXAS GULF COAST INDUSTRY





PHOTOGRAPHS BY BOB BAILEY

HOUSTON— Where Texas Raw Materials Become Industry's Chemicals

The basic heavy chemicals are being manufactured on the Texas Gulf Coast in immense quantities . . . sulphuric acid, hydrochloric acid, chlorine, and caustic soda. In addition, a variety of specialized chemicals are being made for special processes, and to utilize the residues of established industries.

The chemical resources of the Texas Gulf Coast support the manufacture of synthetic rubbers, plastics, fabrics, solvents, explosives, resins, and numerous other products.

The Houston plants pictured here play important parts in the manufacture of Gulf Coast chemicals. Consolidated Chemical Industries, Inc., for instance, is one of the few plants in the nation processing bones for the manufacture of Bone Char, the sugar industry's best decolorizing agent. Bone oils, bone meal, sulphuric acid, hydrochloric acid, and salt cake are other Consolidated products. Nyotex Chemicals, Inc., is well known as a manufacturer of raw quick lime, chemical grade hydrated lime, anhydrous aluminum chloride, and anhydrous hydrofluoric acid.

Natural gas, so abundant in the Texas Coast Country and so readily available to industries, is not only the fuel for industry's boilers; it also is a first-rank source of raw material in the manufacturing processes of the chemical industry.

No matter what your manufacturing process, opportunity beckons on the Texas Gulf Coast. For detailed facts about the region's raw materials, individualized to your own products and processes, write for a comprehensive, carefully engineered survey. There is no cost or obligation, and your inquiry will be kept in strict confidence. Address Research Department, Houston Pipe Line Company, P. O. Box 2412, Houston 1, Texas.

HOUSTON PIPE LINE CO.
Subsidiary of Houston Oil Company of Texas
GEO. A. HILL JR., President
Wholesalers of Natural GAS

How Many South Carolina Forest Products are in this Picture?

Everything—except the lady—is a product of South Carolina forests, from the rayon dress to the paper bag and the plastic spoons on the plywood table. Yet these are only a few of the products that science has created from wood, only a hint of more to come from South Carolina's 10 million acres of forest, covering over half the state.

Already, many industries are fabricating wood products here, but our forests are so vast, and the rate of growth so rapid, that there is room for many more. South Carolina industries are favored by native labor, a gentle climate, moderate tax and power rates. For accurate, detailed information, write State Research, Planning and Development Board, Department E, Columbia, S. C.

South Carolina

WHERE RESOURCES AND MARKETS MEET

Latin America Offers Opportunities For South

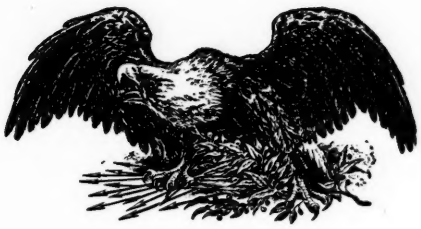
The promising opportunities open to the South for expanding trade with Central and South America are receiving increasing attention. In many ways the war has brought the two American hemispheres closer together. While most of the commerce between the two, during the past four years has been related to the war effort, the pent-up need for civilian goods will now make itself felt. The importance of this opportunity to the South was recently outlined in the editorial columns of the Birmingham *News* as follows:

"South and Central American business concerns are seeking opportunities to import from the United States, as most of these countries have dollar balances in American banks. This is especially true of Brazil. The United States is Brazil's best customer, and there is no reason why Brazil should not become our best customer. Every issue of the bulletin published by the Brazilian Government Trade Bureau in New York contains lists of articles which Brazilian concerns wish to import from the United States, such products as rails, railroad switches, engines and cars, machine tools, motors, agricultural machines, cement, roofing material, iron and steel, and office supplies.

"The war has made Latin America fully aware of the industrial greatness of the United States, and the people of these countries have acquired many North American tastes. Germany and Great Britain, our greatest competitors in the past, are at present unable to compete with us. Germany may be out of the running for some time to come, while Britain's outmoded industries may handicap her efforts for many years. There is little question but that the Latin Americans want American goods, and the field lacks spirited competition at present. Concerns in the United States are going to get the trade for the mere asking."

Due to geographical position and other conditions, the South is especially well situated for trade with the countries to its south on a larger and wider scale than was the case before the war.

The Pan American Society of Quito, Ecuador, S. A., offers a large, four-page, charted and detailed pamphlet to readers of MANUFACTURERS RECORD who are interested in either exports or imports from or to South America. Firms who contemplate doing business with these nations will find this pamphlet to be of immeasurable value. The data were compiled from first hand investigations in Latin America by the Society's staff of experts and is offered free of charge or obligation. Simply drop a line to: Sociedad Panamericana (Pan American Society), at Casilla 315, Quito, Ecuador, S. A.



"What Enriches the South Enriches the Nation"

AN EMPTY BAG

Unless the present tax laws are drastically revamped, small business is doomed. Throughout the life of the present principal owner of a small corporation, that corporation must struggle under the burden of a profits tax which curtails expansion, research, and all forms of advancement. And should this uphill battle be a winning one, the business will still be driven out of existence by inheritance taxes when the principal owner dies.

The effects of the profits tax have been widely discussed. Either you favor private enterprise, or you favor the tax and eventual totalitarian economy; there is no middle ground. The MANUFACTURERS RECORD does not believe in Stalinism.

The death tax, though, is something that also deserved our attention. The small, family-owned corporation is the core of American business. The large corporations, all of which had small beginnings within the life-times of most of us, get the headlines when there are labor disputes. From the ranks of small business, however, come both the stockholders and the customers of General Motors, American Telephone and Telegraph, and other industrial giants.

When the principal owner of a small business dies and leaves ownership to his sons, he is in reality all too often leaving those sons only a very large and very empty bag to hold. Let us consider the case of a corporation worth one million dollars. Only a small portion of its assets are liquid, and these are almost always needed for the day by day conduct of the business and for the handling of emergencies, for which any responsible enterprise makes allowance.

When death takes the owner, cash on the barrelhead to the tune of $350,000 to $400,000 must be produced immediately for Uncle Sam. Since, as we all know, the owner of a million dollar corporation seldom has large liquid assets outside the corporation, the heirs must sell the business to meet their tax debt. The type of buyer who would like to take over the whole corporation is deterred by the aforementioned profits tax, which keeps him from expanding. The only alternative for the heirs is to sell piecemeal—trade name and good will here, machinery and fixtures there, and buildings and grounds still another place. Under such conditions the sellers who realize $400,000 in cash on a million dollars' worth of assets are extremely fortunate.

When urging high death tax rates, President Roosevelt said, "The benefits of corporate organization remain. The advantage of pooling many investments in one enterprise remains. Governmental privileges such as patents remain. All that is gone is the initiative, energy, and genius of the creator—and death has taken these away."

Is that all that is gone? What about the jobs of the employees? When small businesses go under, as they will and must under the present program, workers are thrown out of jobs.

Never mind the heirs, who in all too many cases have merely a headache to show for an enterprise built painstakingly and lovingly through the years. The administration is obviously content to let such pampered pets whistle up their collective windpipes. How about the workers? The administration professes to be the working man's friend. Why doesn't it consider the workers in this case? If the fault is through oversight, doesn't it seem strange that the labor organizations, aware of the hardships of their members when they are thrown out of jobs, haven't done a little reminding?

CONTROLS versus PRODUCTION

What is the real threat of inflation? Somewhat oversimplified, and despite what Washington may try to tell us, it is the state of having more money than available goods to spend it on. We are not merely threatened with inflation; we are now in its throes. When a 1941 model automobile sells for more, after five years of use than it did when new that is inflation.

When the Office of Price Administration tells us that it is trying to prevent inflation, what it should say is that it is trying to prevent *more* inflation. Nor does the O.P.A. make this mistake innocently; it is an ancient and not too honorable trick of propaganda.

In the first place, the O.P.A. is wrong when it claims inflation is being checked merely because some prices are being checked. Wages are not being checked. More and more money is being placed in circulation every day. Goods are scarcer every day. Money is going to go someplace; usually where the spender believes he can get the most value out of it. If interest rates fall off and taxes and government meddling destroy profits he is not going to save or invest; he is going to squander his money for immediate gratification. He is going to increase the size of the snowball of inflation by his dissipation of the creative wealth that is the basis for improving living standards.

Goods and services will continue to be very scarce until prices are increased sufficiently to allow the producer to make a fair profit. During the war our economy, proven sound by history, was suspended. It is senseless to expect us to start it again by tying down the safety valve of price levels, while building up the steam pressure of wage increases. Something is going to blow up. Do you believe that such an explosion is being planned?

Inflation is not being checked; its outward signs are merely being camouflaged. What do you think should be done? We believe that the only cure is goods plentifully produced by organizations struggling against each other to make a profit. This condition cannot be achieved so long as there is any price control whatsoever. Private industry will start manufacturing scarce items once again, when there is sufficient profit to justify risking capital. When the law of supply and demand, which the government can repeal only by destroying our constitutional liberties, starts functioning once again, prices will go down. Competition will assure this. It always has. Before long this country will be on an even keel, with initiative, enterprise, and plain, old-fashioned elbow-grease and sweat assuming once more their rightful place in the American sun.

We believe that this homely cure is now overdue. We have finished a war which has depleted our resources almost unbelievably. We have piled up a national debt which we compute in terms of light years. Our nation is, through the strangulation of free enterprise, in the midst of economic shivers. It takes no major operation to put us back on our feet. Removal of price controls, and the return to private business of its rights as guaranteed under the Constitution, will do it.

Fair Words

"Our American system of free enterprise means simply this: Any man can work at any job he chooses. If he has enough capital he is free to set up any business he wants. Or workers and others can get capital by joining together and setting up a cooperative business. A worker is free to join a union and to bargain collectively for higher wages.

"Competition between business firms in a free market tends to bring profits to efficient managers who can produce the best products at the lowest price. This chance to make a profit by doing a better job than someone else has proved to be the most powerful incentive to a good management ever discovered. Workers have a strong incentive to cooperate with management and improve production because their unions can win them a share in the increased earnings. That is why free enterprise brings the highest level of efficiency and therefore the highest living standard.

"In a totalitarian state, the government dictates all policies. The government can tell an employer what to produce and a worker where he shall work. There is no chance to make a profit; the worker's union has no power to raise his wage. Security depends on keeping the favor of one's superior officer, and frequent purges are a sharp reminder that death or the concentration camp are the penalties for those who lose favor. This has been true both in Nazi Germany and Communist Russia. Utter ruthlessness on the part of the dictator government brings compliance, but it does not bring a high level of productivity. Production per man-hour in USA before the war was three times that of Soviet Russia."

These remarkably far-sighted paragraphs come from *Labor's Monthly Survey,* an official organ of the American Federation of Labor. There can certainly be no quarrel with any of the sentiments expressed here. The unfortunate fact, however, is that much of organized labor sees fit to disregard this pronouncement.

Free enterprise is the only possible means of maintaining our present high standard of living and improving it through the years. Labor realizes that; at least its responsible members do. Yet we find large segments of organized labor doing their utmost to destroy that system of free enterprise. We like to think that those who are doing so purposely are in the minority, but the course on which this country is being steered is all too obvious, whether the steering is by accident or design.

Labor wants wage increases. There's nothing abnormal, or even reprehensible about that. The working man's pay raise is the direct, tangible way that he thinks will improve his standard of living. But

labor wants wage increases without price increases. It wants the manufacturer's income to remain static while it grabs a bigger slice of the pie. Labor proclaims it believes in free enterprise, but ignores the fact that if the manufacturer's chance for profit disappears his business will be neither free nor enterprise.

Labor decries totalitarianism, but apparently only as it immediately affects labor. If management collapsed completely, which it might well do if the inflationary effects of wage increases without price increases are carried to their logical conclusion, government will have to take over the functions of management. This will mean a totalitarian economy for the man who is willing to classify himself as labor as well as for the rest of us.

Labor praises competition, but how can there be competition without profits or losses? Why should a man strive to build a better mousetrap if he does not believe it will earn him more money than the old-fashioned one made by his competitor? The better mousetrap builder, when he finds labor demanding all of his increased profits left after taxes, will fold up and let the people go back to throwing rocks at the rodents. This isn't exactly conducive to a higher standard of living.

A Dynamic Industry

There has been much speculation as to where this nation would find a dynamic industry to occupy a position in our economy similar to that of the automobile industry following World War I. Aviation and television are the two most repeated answers, but they are both engaged in the manufacture of military and luxury commodities.

At the present time, however, the country is faced by an emergency in its lack of homes. Here is a basic necessity, and in the building industry we may find the impulse that is desired in our economy.

If we act on present subsidy and ceiling suggestions, we take the first step towards complete federalization of all building. It is obvious, however, that something must be done to satisfy the immediate need for new homes, and that if the proper steps are taken, the basis will be laid for an unprecedented era in the construction industry.

There is a way to reactivate this important field. The first moves should be made by the building industry itself. Mass production has been the rule in the rapidly expanding business of the past fifty years, but building is still largely on a unit basis.

Mass production will bring about great changes in the construction business, and for that very reason there will be many who will oppose it. But there will be others—the spiritual descendants of the nineteenth century pioneers—who will have the vision to see that only by a revision of methods can the desired result be obtained.

There is, and always will be, an established place in the construction field for the individual contractor who builds units to conform to the specifications of the buyer. Those of us who are fortunate enough to be able to afford it will want our homes made to order, just as we like to have our suits tailor-made. This branch of the building trade will by no means be forced to close its doors. It should, however, be alert to take advantage of the changes as they occur; thus their position will complement, rather than be superseded by mass production housing.

One element which will oppose any change is organized labor. Unions have from the very outset been noted for their inability to see beyond the immediate present, and those in the building trades are no exception. It seems fundamental to us, for example, that if, instead of limiting the size of the brush used by a painter, the painters' union permitted larger brushes or even spray guns, the cost of painting would go down and proportionately more people would want to have buildings painted, thus increasing employment for the painter. The union apparently can't see it that way, and consequently we have horse and buggy methods of painting in the atomic age.

There are hundreds of equally clear-cut examples of antiquated labor practice in building. These will have to be revamped or discarded before the construction industry can assume its rightful position.

Outmoded building codes must go. Zoning laws must be brought up to date. Management must encourage, rather than retard progress. Artificial government controls must be abandoned, so that an industry geared to a free economy can function in one. This path will not be strewn with rose petals; no path is, for the pioneer. But low cost, mass production housing can exceed the wildest dreams by increasing the nation's wealth, becoming the industrial force of the immediate future and thus raising the standard of living of us all.

Secret Pacts Un-American

In no way was the merit of free speech and its partner, free dissemination of information, better illustrated than by comparing the effects of the secret Yalta agreements and the pact of the United Nations at San Francisco.

In the first, if current reports are to be taken at face value, the late President Roosevelt made certain secret commitments to Marshal Stalin that were not only withheld from the American people but which he denied having made. Present at the conference was Secretary of State Byrnes who says that he knew nothing of the commitments when they were made but admits that they were agreed upon.

One by one these secret arrangements have been brought to light and one by one they are reluctantly admitted by those in the Administration who are in a position to know of their validity. Some of the arrangements contravened provisions of the Atlantic Charter. Such as were of this nature place the late administration in the unenviable position of having contradicted its own dogmas of principle by pandering to expediency. They have aroused confusion and distrust in the minds of the American people. The Senate is considering steps toward repudiating the agreements on the ground that they were in actuality treaties that require Senate concurrence to become effective. The entire situation has an unsavory aroma.

Above—The Oklahoma City Skyline.

New Industry Holds Spotlight In Oklahoma City Reconversion

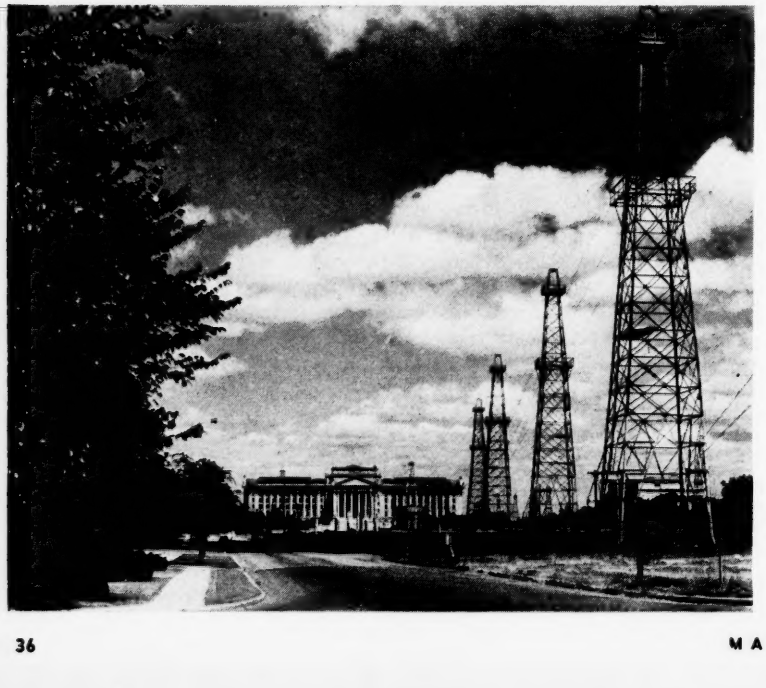
by
Lester Penn

RECONVERSION.

What is it? It means a lot of different things in a lot of different cities. Usually it indicates a scramble to get back into peacetime production interrupted by war.

If that is the accepted meaning of the word, reconversion is distinctly in second place in Oklahoma City. Here the coming of peace meant the return of many industrial plants to the output of civilian goods—but in first place is the continuation of new industry incubated by the demands of the military, which now are going concerns devoted to supplying Mr. and Mrs. Southwest, and in a smaller degree, Mr. and Mrs. America with some of the things they want which are best produced in the Southwest.

Below—Oil wells on state land fronting the Oklahoma Capitol at Oklahoma City. The nearest ones drain the black gold from directly under the building.



The war found Oklahoma City, often described as "on the Industrial Frontier of America," just getting its teeth into industrial production. For years oil, livestock and agriculture had been the backbone of this city's economy. Within a comparatively short time before Pearl Harbor industry, as represented by manufacturing, was on a relatively small scale.

Oklahoma City is in the heart of a new land, and new lands throughout history have nourished their cities from the soil while industry moved in.

Industry was moving into Oklahoma and Oklahoma City when the Japs struck.

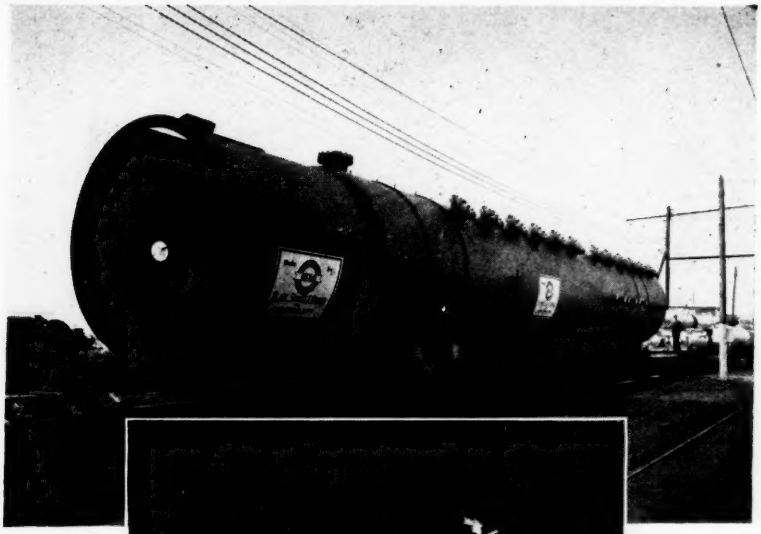
The war set industry in this city ahead by many years, and today many manufacturing industries, set up because Uncle Sam needed plastics for airplane parts or a precision gear for a gun, are turning out tea tables, awnings, metal ware and a variety of other products.

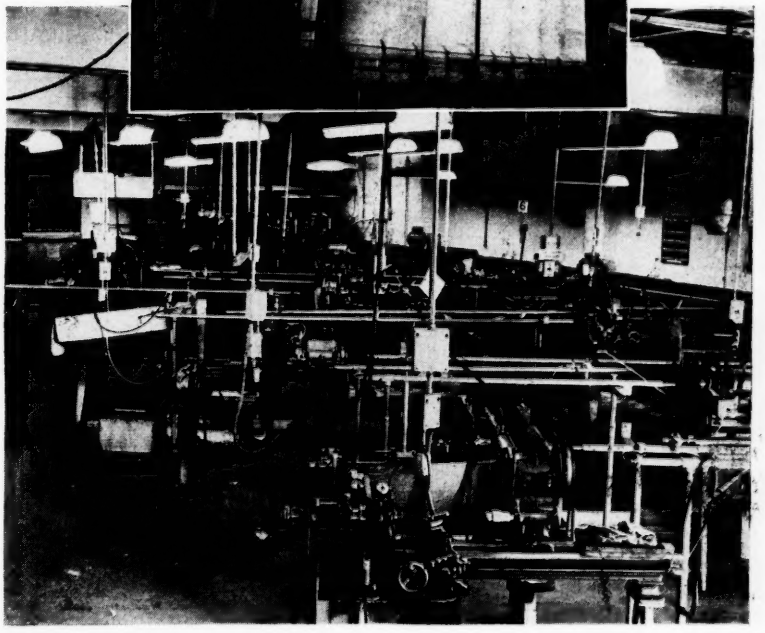
It is not reconversion, but new industry which has the spotlight here.

These two facts stand out:

First—Oklahoma City is retaining on a permanent basis all the huge "war babies" installed here during the months of conflict with a civilian payroll in excess of 15,000.

Second—A wide variety of new industrial enterprises, founded in re-





Right Top—Huge oil refinery "bubble" tower made by Black, Sivalls and Bryson, Inc., Oklahoma City. During the war the company made gear cases, heavy metal mountings, deck flanges. Reconversion required no movement of tools or machinery, so peacetime output started without a hitch.

Right Middle—A standby of Oklahoma City—milling. This is the General Mills elevator, crammed with wheat.

Right Lower—Precision tools, an example of growing Oklahoma City industry.

sponse to wartime demands, are carrying on with the production of peacetime articles, mostly in the consumer fields.

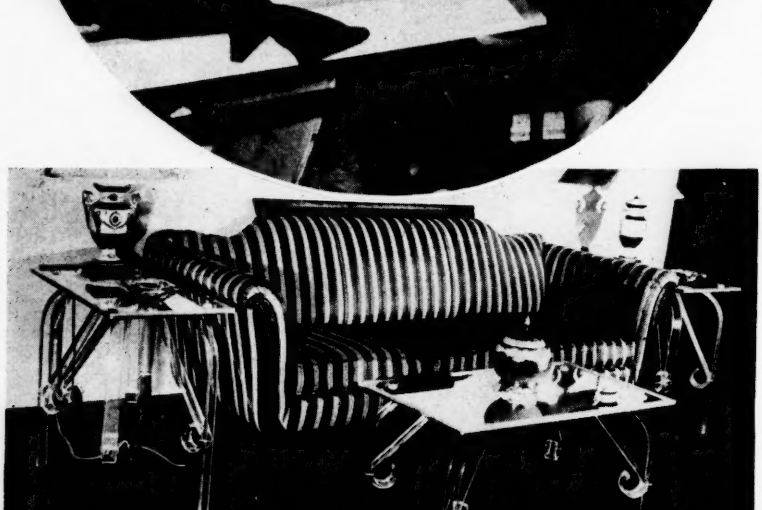
During the war Oklahoma City's central interior location, level terrain and advantageous climate resulted in the location here of three major aviation installations. These were, the Oklahoma City Air Technical Service Command, including Tinker Field, a huge production and modification plant operated by the Douglas Aircraft Company, and Will Rogers Field, an extensive Army air base.

Since the end of the war the Oklahoma City Air Technical Service Command has taken over the Douglas plant, owned by the War Department, as an integral part of the OCATSC operation. It is by a very considerable margin the largest installation of this type in the world, representing an investment of more than $81,000,000. Its permanent peacetime civilian personnel totals approximately 15,000, largely in industrial-type jobs.

At Will Rogers Field the Civil Aeronautics Administration is now making arrangements to concentrate a number of its varied field opera-

Above—Oklahoma is in the forefront in making lakes, so Oklahoma City is making boats. The picture shows the new Roy Wilkerson boat works. Two great man-made lakes are located in Oklahoma—Lake Texoma on the Red River, cover 95,000 acres and Grand Lake, covering 59,000 acres.

Circle—The army needed tents and Hamlin Tent and Awning Co., Oklahoma City, did its part in supplying them. This is a corner of the plant today. Orders are piling up, as the demand increases for awnings, beach umbrellas and porch shades. Bottleneck of expansion—no machines.



tions from other places in the nation; communications and communications engineering training facilities from various regions, air traffic control training, a proposed central overhaul and maintenance base for CAA aircraft and a central depot for storage and distribution of special communications construction materials and equipment. This is a permanent setup with a prospect that it will be expanded later to include other field operations. At present some 150 permanent personnel and from 200 to 300 transient CAA personnel in training are involved.

Thus, Oklahoma City has no unused "war babies" on its hands. And every industrial enterprise which expanded its facilities during the war is already making full use of them in production of peace time goods.

The range of new industries extends through plastics, tent and awning manufacturers, airplane parts, auto batteries and a number of others. And in the background remain such old established elements of industrial stability as the multi-millioned Mid-Continent oil industry, an increasing segment of which is centering in Oklahoma City; the huge meat packing industry operated in connection with the Oklahoma National Stockyards, one of the 12 primary markets in the nation; and extensive operations in steel fabricating, metal products, paper specialties and printing.

Indicative of industrial conditions here during the reconversion era is the fact that the population

(*Continued on page 66*)

Left—Oklahoma, where crops of the north and south meet, where wheat, cotton and corn grow in adjacent fields, has been called the plastics paradise of tomorrow, so it is natural and plastics should be among the city's postwar products. The tables shown are made by Thrush Plastics Co.

ABSENTEE MANAGEMENT LOOMS AS COTTON MILLS CHANGE OWNERS

by

J. A. Daly

THE South, in appraisements stimulated by reconversion period portents, is becoming deeply disturbed over the future of the cotton textile industry, even as the once "king of crops" sells at 22-year peak prices.

This industry is operating in a peculiar situation—amid gloom induced by high prices and boom created by insistent demand from a nearly naked world. Yet, perhaps never before, except possibly when New England's mills were surging southward in the unprecedented migration of the 1920's, has the American cotton industry (including textiles, of course) been so upset. One fear is that present threatening prospects may become realities within a few years.

There is no gloating over the prevailing "good things," as might be expected of normally optimistic and enthusiastic Southerners.

It is so because events and ideas are undermining faith in fundamentals that have long endured. Whatever else may be said about the situation, which may bring historic developments for the industry, this appears true: Textile production processes are in a swirl of major change while dramatic mass movements of financial control are in progress within the industry.

Strangely, the South feels hurt because prices of common stocks reflect astonishingly increased values of its cotton mills. Recent dividend records show that the mills are notably profitable, even though wages and raw cotton prices are high by any comparisons.

In consequence, the spectre of "absentee management" has arisen. Both amazement and resentment have been provoked among numerous important sectors of the South's general business which, later, may be broadly affected.

Here are some statistics acquired from dependable, various sources which strongly present one basis for the South's uneasiness:

From January of 1943 up to April, this year, 90 Southern cotton mills were bought outright by Northern capital. Announced prices far exceeded any previously quoted over-the-counter prices for these stocks.

These mills have 2,692,554 spindles and 57,964 looms, or 12 per cent of the spindles and 14 per cent of the looms in America's entire cotton textile manufacturing industry.

Selling prices frequently were around $70, or more, per spindle, compared with the traditional prewar $22.

These purchases are described by the blanketing word "integration"—the corporate process of balancing production capacities of the various departments: spinning, weaving, knitting, dyeing and finishing, etc. Integration puts into operation in this industry "big business" principles of production under holding company management, aiming at effecting mass production economies on a kind of "line" basis.

Proponents of this policy insist that it is sound, typically American. To the average Southerner, however, it is "different!"

No one in high places in the South's industry and finance professes to know where this trend will carry, be it speculation, integration or evolution. There is, however, an idea (maybe a hope) that the trend will come to a sudden end—likely within a year or 18 months—when wartime accumulations of world demand for cotton textiles has been relieved of urgency.

In this connection, it should be remembered that Southerners still regard the industry as a "feast or famine" operation—experience has been for these people a merciless and effective teacher.

Just now the industry is in the "feast" phase of its cycle—and the mills' securities, paying relatively impressive dividends, are selling briskly at prices which the conservative Southerners view with astonishment. These prices emphasize not only the industry's prosperity; they are reminders of the swing in control, not only through open changes in ownerships and managements, but also through the unobtrusive influences of unannounced stockholder relationships.

Analysis of these prosperous textile mills' common stock prices reveals that one share in each of 35 mills would get the stockholder $175 in annual dividends at 1945 rates for an investment of $3,124.

Furthermore, an investor's portfolio of 27 other shares, one share in each of a selected list of companies, would have a combined par value of only $342—but these shares would cost at prevailing prices $891 and the annual dividends, 1945 rates, would total $36.80.

Despite the tremendous influx of Northern capital—and rumors persist that much of this "outside" capital is "refugee" money—the Southern investors (once regarded as patriotic plungers) still have a great financial stake in Dixie's cotton factories. So, these Southerners have watched the trend, and being slow to sell, encouraged higher bids for their holdings. In this they have been successful.

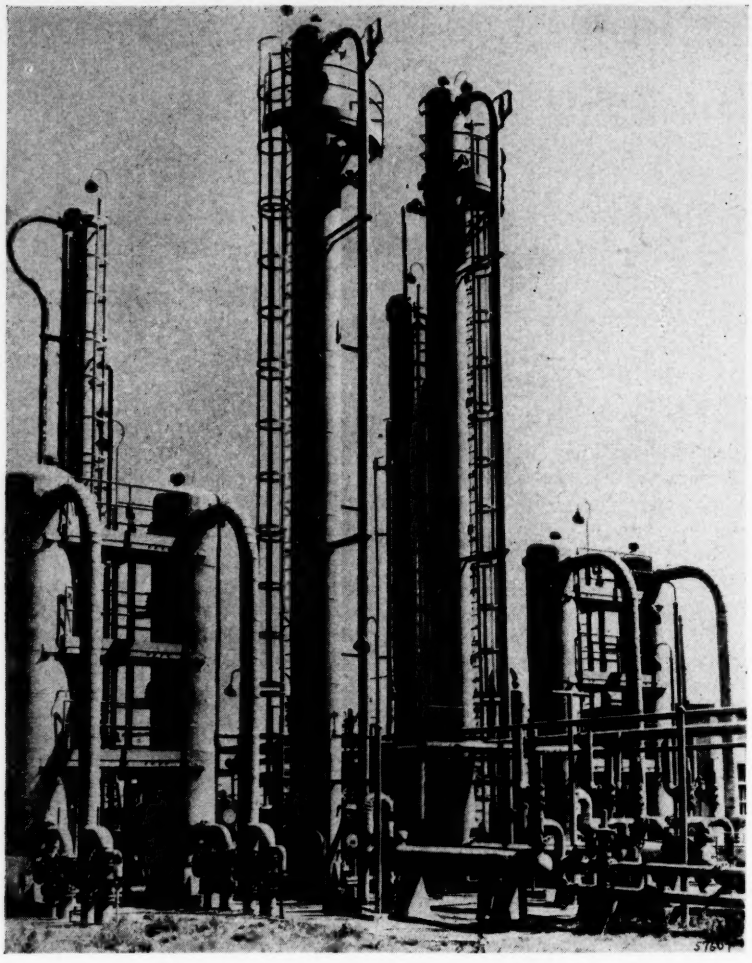
Analysis of bid prices of a list of 58 of these stocks shows that the average per share price advanced from $71.48 on Jan. 1, 1945, to $87.36 on Jan. 1, this year; to $89.41 on Feb. 1. $96.51 on March 1 and $97.77 on April 1.

Incidentally, this advance in quotations represents many, many millions of dollars added to the values of the hundreds of mills that make up the South's great industry. The management's part in bringing this about consisted largely of doing a difficult job well in unpredictable circumstances, with the co-operation of intelligent workers who have received broad wage raises.

Thus has been presented the industry's boom phase in some of its aspects—there are others.

The gloomy phases likewise are numerous. Some of them, related to changes in stockholder control, im-

(Continued on page 73)



Left—Carbon dioxide removal unit at the Excell, Texas helium plant of Bureau of Mines.

Two of Country's Four Plants Produce Helium in Texas

FIGURES on helium production disclosed for the first time since Pearl Harbor, show that the Bureau of Mines plants—two of which are in Texas—in the last five fiscal years produced 370,787,000 cubic feet of helium, or enough to inflate more than 600 patrol and scout blimps of the largest and latest type used by the Navy to wage war on Nazi submarines in the Atlantic.

The Bureau's wartime helium output also would provide enough of this gas to inflate a fleet of more than 50 of the huge rigid-type dirigibles of the Graf Zeppelin II or Hindenburg class, the Secretary said.

During the first World War when helium was little more than a laboratory curiosity, three small American plants produced a total of only 200,000 cubic feet of helium. None of this reached Europe, although about 147,000 cubic feet of gas in cylinders was awaiting shipment at an American port when that war ended.

The largest portion of the 1941-45 production went to the United States Navy for inflating the blimps used in coastal patrol and for convoy escort duty, but considerable volumes also were supplied to the Army, the Weather Bureau for use in meteorological balloons, and to medical, scientific and commercial users.

Military and non-federal demands for helium reached their greatest peak in history during December, 1943, when Bureau plants shipped 14,608,700 cubic feet of the gas in cylinders and special tank cars. In the same month, the first of many all-time production records was established, the three plants then in operation extracting 14,221,200 cubic feet of helium.

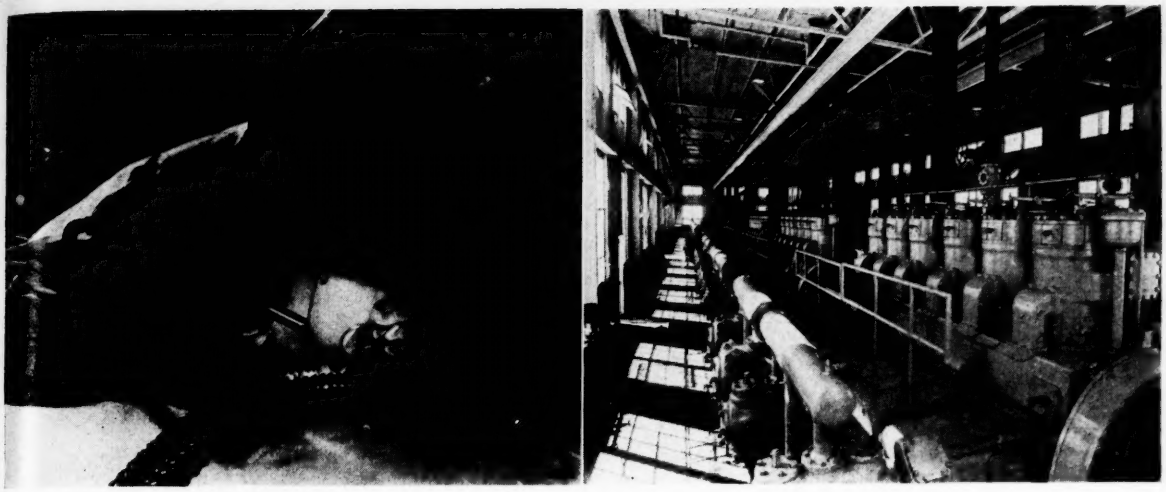
This monthly output was surpassed only once—in September 1944—when four plants of the Bureau extracted 14,297,700 cubic feet of helium to set the highest monthly production record throughout the war.

Slightly more than a quarter of a century ago, helium was produced at a rate of about $2,500 per cubic foot by then known laboratory methods, but so efficient were the Bureau's methods that during the war the gas was produced for considerably less than a cent per cubic foot.

The Bureau of Mines, since 1925 the sole government agency charged with helium production, operated extraction plants at Amarillo and Exell, Texas, at Otis and Cunningham, Kansas, during the war. The Amarillo plant was supplied from the Government-owned 50,000-acre Cliffside gas field; the other plants extracted helium from privately-owned natural gas going to industrial markets. A war constructed plant in New Mexico operated only for a test run.

Four new helium extraction plants were built and existing production facilities at Amarillo were expanded by the Bureau in the short space of three years under a $16,000,000 expansion program launched soon after this country went to war with the Axis nations. Long experience in helium production and the perfection of more efficient extraction equipment enabled Bureau personnel not only to build the new plants in a comparatively short time, but also to reduce costs of production to the lowest point in history per 1,000 cubic feet of helium.

When Hitler invaded Poland in September 1939—more than a year after Germany was denied the right



Above — Left — Welding magnesium, an inflammable metal, by the heliarc process made possible by helium.

Above—Right—Interior view of the Excel plant.

to buy American helium—the Bureau had in operation only the Amarillo plant, which had been built in 1929 and had supplied domestic needs for more than a decade. The outbreak of war in Europe and the intensified preparedness program of our own country caused many upward revisions of military estimates for helium, and the need for additional production facilities was foreseen many months before the United States entered the war.

Tentative plans for expansion, however, were altered greatly after the Japanese attack on Pearl Harbor and specifications for the proposed plant at Exell, Texas, were revised to include additional helium separators. At the same time, enlargement of the Amarillo plant was proposed.

For the first 15 months of the war, during the construction of the Exell plant, the Amarillo plant bore the full burden of production. The first units at Exell started producing in March 1943, and for several months following, while construction was rushed on other plants, the Amarillo and Exell operations were pushed far beyond their rated capacities to meet the demands for helium.

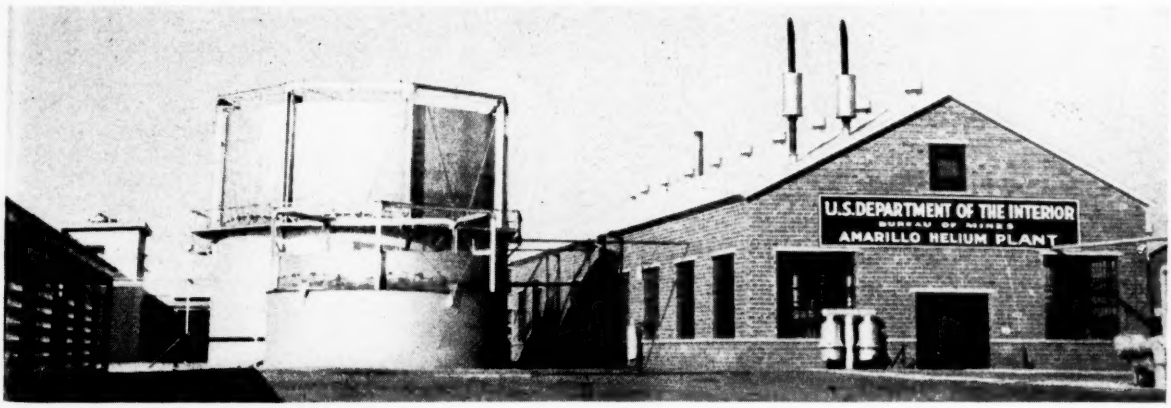
In July 1943, the Amarillo plant reached its all-time monthly peak output of 4,617,900 cubic feet—more than 50 percent above its rated capacity. In the same month, the Exell plant produced 7,318,000 cubic feet, but this record output was eclipsed three months later, in October 1943, when the yield was 8,238,800 cubic feet—more than 60 percent above rated capacity.

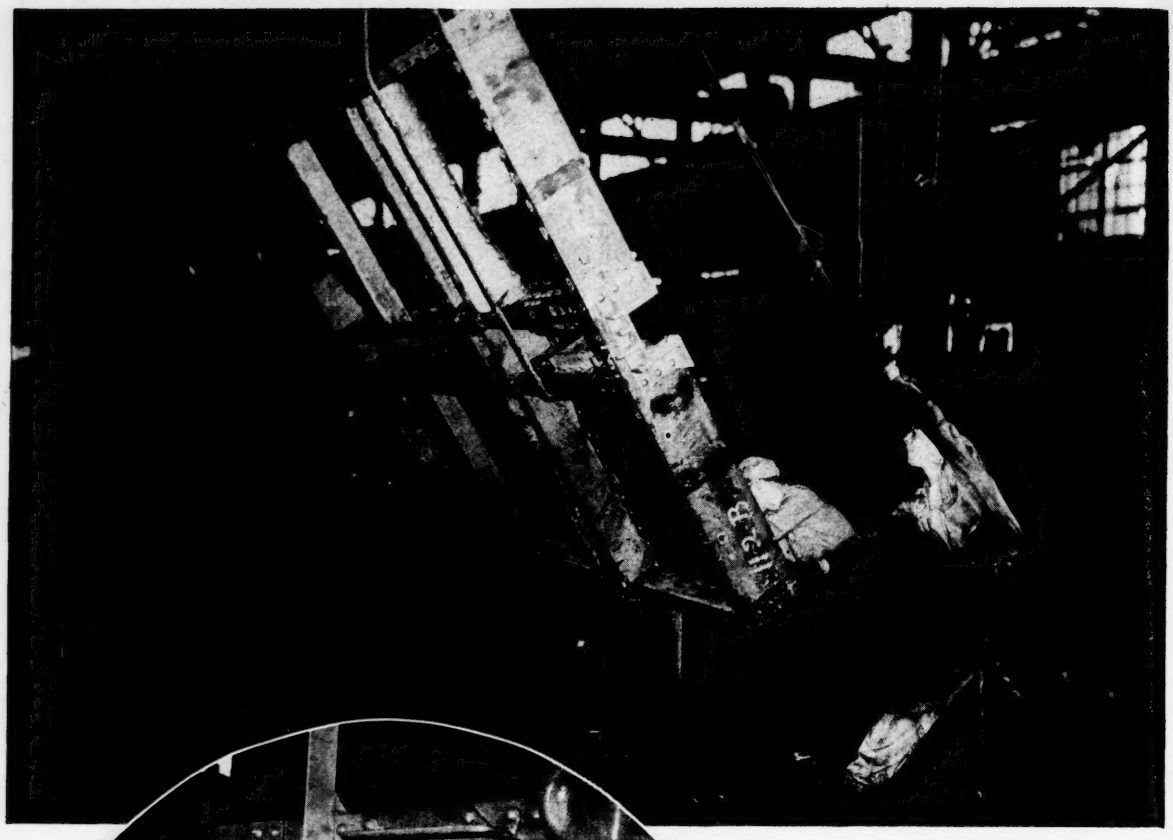
The Exell plant now is the largest helium development operated by the Bureau and in the first 8 months of service this plant had produced more helium than the original helium plant at Fort Worth, Texas, had extracted in its entire life of about 8 years. The daily rate of production at Exell exceeded the total quantity of helium produced during the first World War.

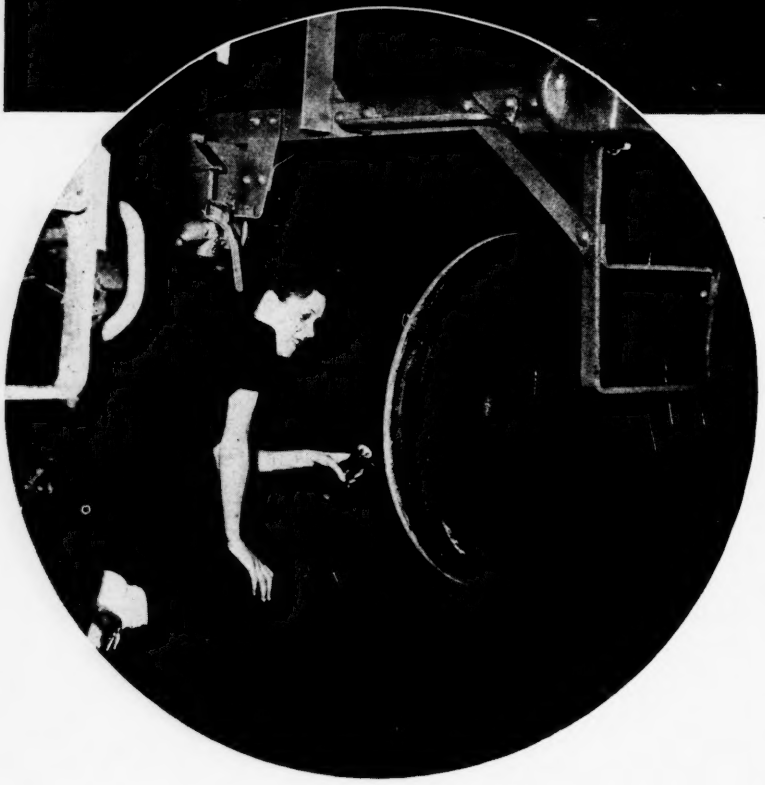
The heavy burden placed on the Texas plants was relieved in October 1943, when the second new plant, at Otis, Kans., was placed in operation. By January 1944, when the Cunningham, Kans., plant started to produce, the demand for helium had declined and this plant was not called upon to operate immediately at a high rate, but in September 1944—the all-time record production month—this plant contributed 4,243,200 cubic feet of gas, exceeding its rated capacity by five percent.

(*Continued on page 74*)

Below—Gas holders at the Amarillo, Texas helium plant operated by the Bureau of Mines.







Above—The skeleton-like underframe of a car is turned over at the Bessemer, Ala. shops of Pullman-Standard Car Manufacturing Co.

Left—Numbers of each wheel are recorded before the cars leave the shipping track.

Little Shop with Big Stuff

THE richest combination of mineral products in the world lies in Central Alabama, with the Birmingham - Bessemer industrial district set squarely in its middle. Pullman-Standard's car building plant in the town of Bessemer is a part of an industrial community which by means of the wealth of mineral deposits at hand, has enormously expanded in the last fifty years.

Mountains and valleys of the area contain remarkable deposits of iron ore, of coal that is suitable for coking, of limestone, and also of dolomite. All of these are used in steel making. In addition, there are clays and shales suitable for brick and tile making. Cement materials abound in the territory.

Here then is the setting for this story of the company's plant in the South.

It was a real Southern barbecue. Substantial tables were set in the wood erection department of the brand new Bessemer, Alabama, plant of Pullman-Standard and about three hundred visitors enjoyed barbecue, Brunswick stew, and Southern sweet potato pie. With this auspicious beginning the plant with the big stuff was opened and the next day, October 2, 1929, went into operation.

Still the most recently constructed car plant in the nation, it has long been a model for efficient layout and for beauty of setting. The sheet steel buildings glisten in the sunlight, and the red brick office buildings are gabled and surrounded by shrubs. The landscaping of the front lawn outside of the office buildings is still a scenic spot in Bessemer, denoting a car plant that is capable of quickly turning out the Southern roads' requirements.

Back in 1929 the personnel for the Bessemer plant was recruited from car shops abandoned by another company. W. C. Sleeman, car engineer for the closed operation, was made superintendent of the new plant, and with few exceptions the personnel of the abandoned car shop were transferred.

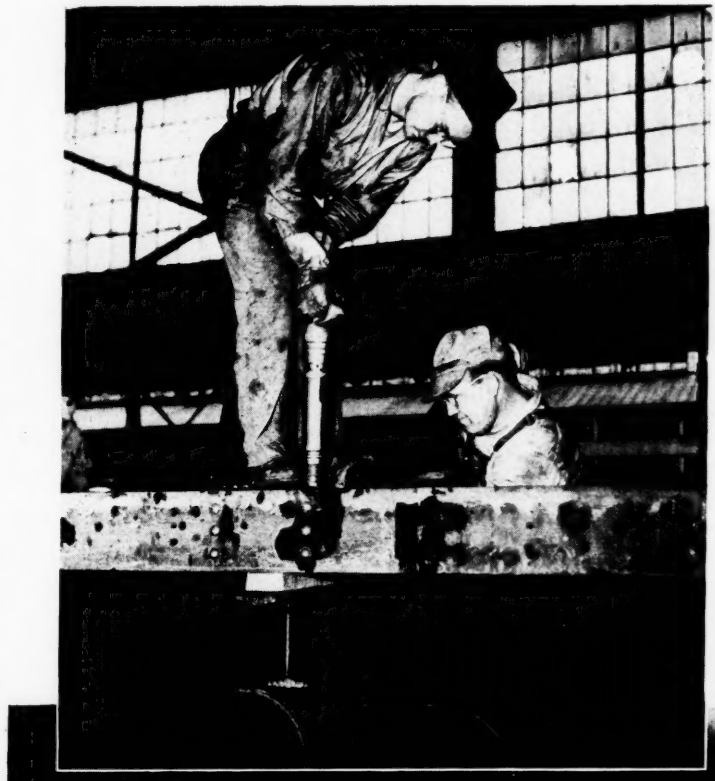
In less than six months the old blast furnace site of one hundred acres was transformed into the new manufacturing plant which now has a total of twenty buildings covering something like 420,000 square feet. The main car shop is one-third of a mile in length. About 56,800 freight cars both domestic and overseas have rolled from its doors, many of which were wood-sheathed box cars. Being in the Birmingham industrial area, twelve miles west of the latter city, the plant has had access to steel and lumber direct from the mines and forests of surrounding territory. Within sight of the plant ore is being mined and is being converted into steel. Southern pine abounds in the territory, so that it is hardly necessary to search far for raw materials.

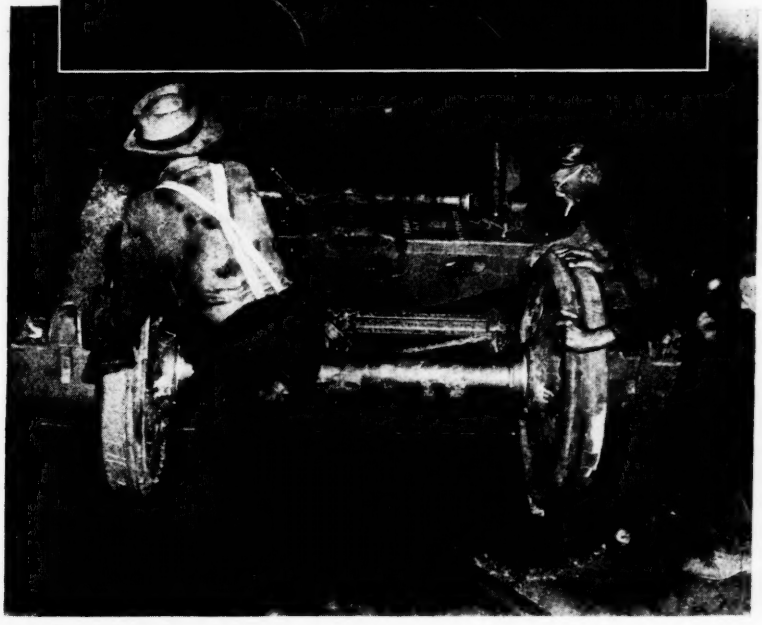
The plant was laid out with an eye to the future. Space was provided for two parallel production tracks, with track No. 1 immediately setting out to produce an order of 601 box cars for Mexico. By December of 1929 track No. 2 swung into production with an order for 500 Central of Georgia gondolas. The two lots ran simultaneously side by side.

Today, having experienced its first war, the plant is getting back to peacetime production. Bessemer has a backlog of cars unshipped of 8,869. These cars include many different types and are for some famous customers in the South. The roads for which the plant will build cars include the Kansas City Southern, Missouri Pacific, Union Pacific, Louisville & Nashville, St. Louis-San Francisco, Southern Pacific, Southern Railway, and Tennessee

(*Continued on page 70*)

Below—A riveter drives a white hot rivet to hold the side sill to the bolster as the bucker "rides down" on the bucking bar.





Right—Two workers turn a truck on the turntable so it can be pushed beneath the underframe of a hopper car.

Left—Traveling light with "Alumilited" luggage made by Erle P. Halliburton, Inc.

Aluminum Industry Makes Ready for Peace Demands

Left—Sailboat with aluminum mast. This auxiliary sloop was designed by G. N. Hendel and built by Rice Bros.

RECONVERSION of the aluminum industry to meet the demands of the peace time world is progressing swiftly. The huge mills that turned out block and a half long sections of aluminum sheet during the war for fighter planes and bombers are now rolling aluminum sheet destined for farm roofs, truck bodies and a hundred other peace time products. The foil mills that rolled the aluminum foil which played so vital a role combatting enemy radar, now roll foil for the packaging of cigarettes, candy bars and chewing gum. The giant hammers which forged aluminum propeller blades, are now turning out pistons for automotive engines and other peacetime products.

In many respects the aluminum industry is the better for its war time experience. Some of the techniques learned in meeting war time problems are finding their way into peace time practice. Techniques of welding and brazing for example have been considerably improved. Finishes for aluminum available today are superior to those known in pre-war days. Some of our newer aluminum alloys owe their commercial existence to the impetus of the war program.

There has been a widespread increase in "know how" in the aluminum industry as a result of the war. Thousands of men and women working in war plants learned about aluminum for the first time and these workers have carried back to their peace time occupations a portion of this knowledge. Probably every village and hamlet, however small, has at least one person in it who has had first hand knowledge of the problems and uses of aluminum.

An attractive market for aluminum at the present time is the building industry. During the war tens of thousands of buildings including countless farms and ranches were allowed to deteriorate because of lack of labor and lack of repair materials. On farms alone for roofing and siding, the market for sheet metal runs into hundreds of millions of pounds.

Within the past few months Aluminum Company of America has brought out a new product called Alcoa roofing sheet which is expected to find ready acceptance in this market. It is relatively low in cost and offers several distinct advantages. It will not rust and under ordinary conditions may be expected to outlast galvanized roofing by many years. Moreover, it is light in weight and easy to handle and install. Already orders for this new material total several millions of pounds.

Before the war aluminum had already established itself in the architectural field for such items as win-

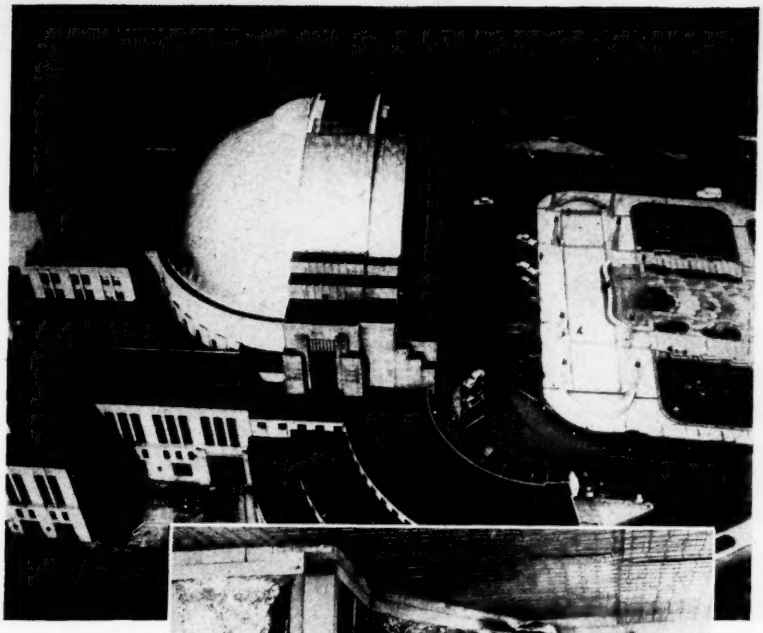
dows, spandrels, and decorative trim. Aluminum windows, limited mostly to industrial buildings in pre-war days, seem destined for widespread use now in residences. An important aluminum roofing installation has just been completed at Cincinnati—a new aluminum roof for the Cincinnati Union Terminal, using a total of 65,000 pounds of aluminum sheet and extruded sections. Another significant project completed during the past few months is the new laboratories building of the Federal Telephone and Telegraph Company at Nutley, New Jersey. Here aluminum sheet was used for the entire outer sheathing of the building. The aluminum is backed up with an insulating layer of fiber glass and a steel frame.

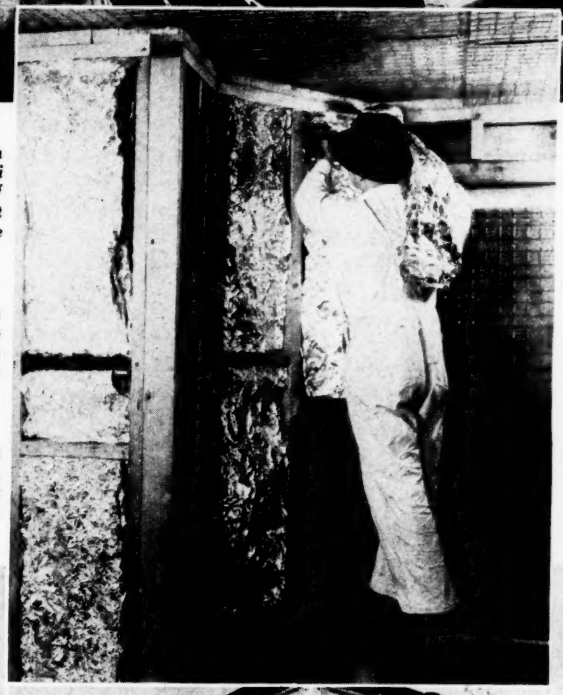
Another promising field for aluminum sheet is the heating and ventilating industry. The relatively low cost of aluminum (ingot aluminum is today selling for 15 cents a pound as compared with 20 cents a pound before the war) will serve as a spur in sales in this direction.

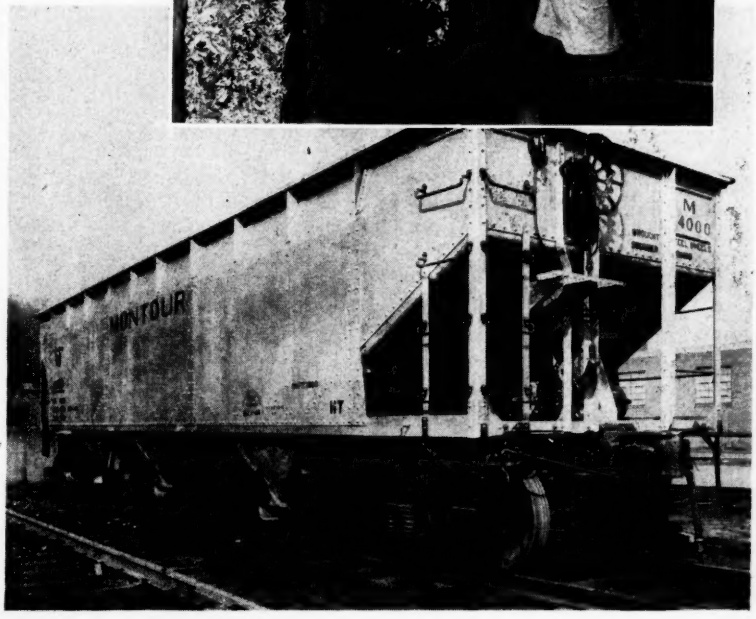
Spectacular strides have been made in the field of aluminum finishes. Post war aluminum at least for interior uses will be available not only in the traditional silvery color but in a wide range of colors. These finishes are achieved in aluminum through the building up of the oxide coating of the metal and the impregnating of this coating with special dyes. The resultant finish is not only attractive but more resistant to wear and stain.

Important progress has likewise been made in electro-plating aluminum. Nickel, copper, silver, chromium and gold plating can be applied to aluminum through the use of zinc immersion procedure. Hardware items can be nickel plated. Gold plated aluminum is available for novelty articles such as jewelry.

During the war several important new aluminum alloys were brought to commercial use. A typical example is Alcoa alloy 75S, an alloy designed primarily for use in building aircraft and possessing tensile strengths exceeding 80,000 pounds per square inch. With the war over,



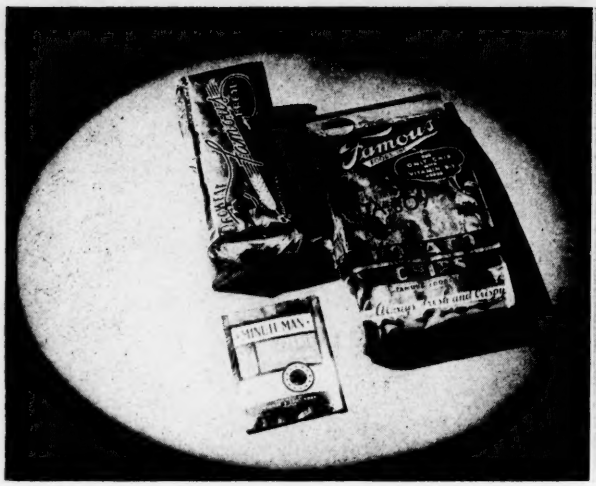




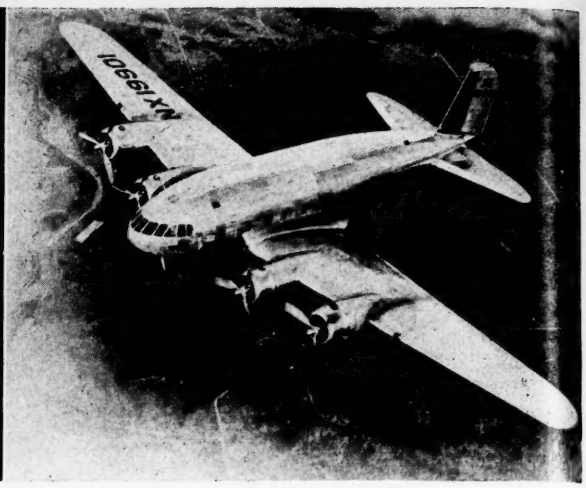
Right Top—All-aluminum roof of the Cincinnati terminal, where a total of 65,000 pounds of sheet and extruded sections were used.

Right Middle—Aluminum foil for wall insulation to reduce heat loss and lessen fire hazard and vermin infestation.

Right Lower — Freight trains are aluminized. This hopper car was built for the Montour Railroad.



Above Left—Frozen food packers recognize the value of cleanliness, nontoxicity and appearance. Alcoa aluminum foil for food packaging.



Above Right—American's new skyliners, such as the Boeing "Stratoliner" pictured, are aluminum to 75 per cent of their weight.

this alloy will find many peacetime applications where extreme strength is required.

Manufacturers of aluminum cooking utensils promise several innovations in post-war aluminum pots and pans. Through the use of a stronger alloy, weight will be saved without sacrificing strength. By applying harder finishes, utensils will be smudge free and easier to clean. Rounded edges will simplify the task of washing and drying.

In many other ways the American housewife is finding aluminum better suited to her needs. Packages fashioned of aluminum foil developed for war use will find application for many foods sold at the corner grocery counter, particularly those of the dehydrated variety. Handy household rolls of aluminum foil will soon be available for wrapping vegetables and other products and for covering refrigerator containers. It has been found that vegetables wrapped in aluminum foil remain fresh long. Corn, wrapped in aluminum foil retains its garden freshness for several weeks.

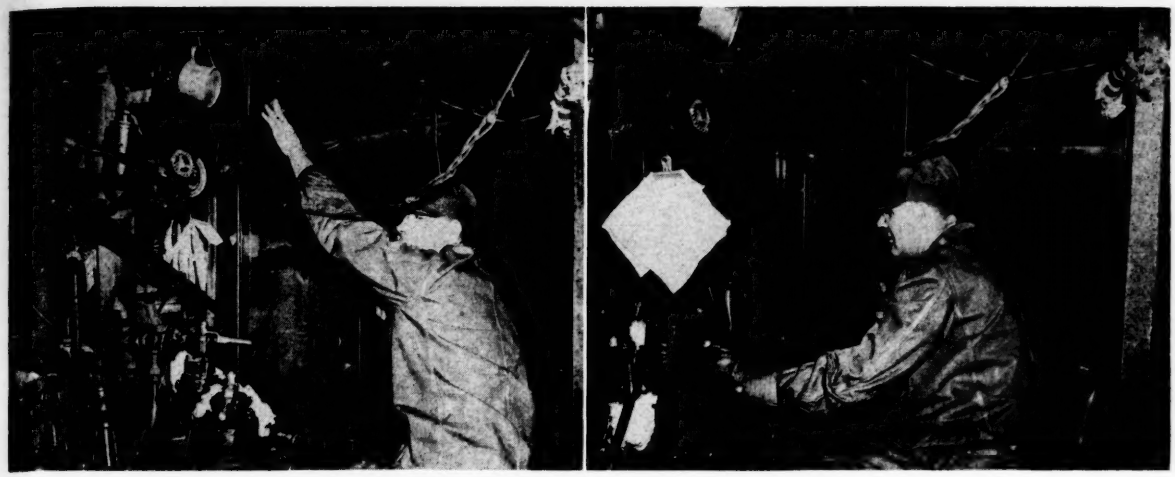
Frozen food packers are eyeing the possibility of aluminum foil. Several types of containers designed for both household and commercial use have been developed using aluminum foil as the principal material. Chief advantages of foil in this field include its attractive appearance, its ability to resist the passage of gases and moisture and its non-toxic properties. Manufacturers of aluminum caps and seals, who, during the war devoted most of their output to war-bound penicillin bottles and related products have now returned to peacetime pursuits and are again manufacturing aluminum covers for bottles, jars and similar containers designed for use in the packaging of foods, pharmaceutics, liquors and other products.

Below—Research made this piano plate possible. Thousands of them are now being cast in Alcoa factories for shipment to piano manufacturers in all parts of the country.

Transportation continues to be one of the principal users of aluminum with bright prospects for increased consumption in all fields. Present day trends indicate that aircraft manufacturers will continue to use aluminum alloys as the primary material for the huge four-engined, skyliners now on the drawing boards. Manufacturers of small pleasure and commercial planes likewise indicate increased use of aluminum.

The past year has seen rolling stock of our nation's railroads augmented by the addition of 32 aluminum tank cars, and at least 50 more are on order. Orders have been placed for 97 miscellaneous passenger cars by the Missouri Pacific, In-

(*Continued on page* 72)



Left—The engineer turns on the warning device. Right—He talks into the microphone in between the warning signals.

First Train Radio Warning Tested

SUCCESSFUL tests on the Atlanta-Birmingham stretch of the Seaboard Air Line have proved the feasibility of further increasing railroad safety standards by broadcasting radio signals when possible hazards arise. Described as the first practical trial of radio waves for the purpose, the tests were watched by railroad and radio officials while on a regularly scheduled run between the two southern cities.

The actual warning device is a Bendix-developed unit operated in conjunction with previously demonstrated railroad radio communication equipment. Known as the "Slowtone," the unit consists principally of a motor actuated cam, which contacts relays and sends out the high-pitched "beep-beep-beep-beep-beep," to warn trains of possible difficulties ahead.

Equipment for railroad radio messages has now reached a higher state of perfection than the earlier designs used for other tests when aircraft radio was adapted for engineer-to-caboose and train-to-station operation. The latest units are so designed that in event of failure, the entire interior is lifted out and replaced in a matter of a few minutes.

Normal range of the train radio system is from five to eight miles, although observers on the Seaboard tests stated that the "Slowtone" device began to warn of an approaching train while the two trains were 12 miles apart.

While putting the "Slowtone" through its paces, Bendix and Seaboard electronics engineers also conducted space radio communications experiments between trains, stations, from train to train and from locomotive to caboose. Voice communication was established over distances ranging from three to 10 miles.

Single installations of train radio cost about a thousand dollars. To equip a train with front to rear-end communication would involve expenditure of about twice that amount. The "Slowtone" device adds a small expenditure, at the same time increasing the safety possibilities by making available an automatic signal warning by a mere flick of a switch.

Officials emphasize use of radio, but at the same time decry the general misunderstanding that has accompanied announcement of current radar as a factor in railroad traffic operation. Radar, they say, travels in a straight line as does light and therefore cannot follow a curved track or distinguish between a train on a straight track or buildings or other objects flanking the right-of-way.

Each train is tuned to its own operating base and all signals relating to operation of that particular train are immediately heard over the loudspeakers located in the engineer's cab or in the conductor's station in the caboose. To reply, the train personnel use a radio telephone handset. As long as a button is depressed on the handset, the operator's voice is heard by the other stations tuned to his frequency. When the button is released, he hears the incoming signals.

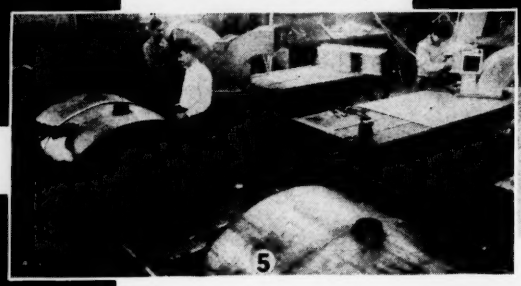
The "Slowtone" warning device is an added safety precaution aimed at reducing possible hazards and accident prevention when a sufficient number of trains are so equipped. Compact—it occupies but a few

(*Continued on page* 66)

(1)—Engineering Department.

(8) — This lathe can take up to 4 feet in diameter, 30 feet long.

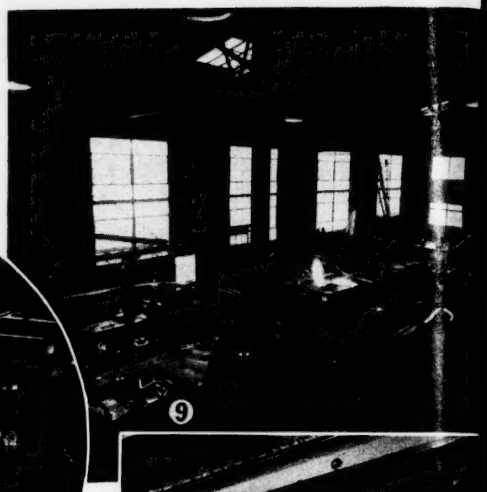
(5)—Sheet Metal Shop.



(9)—The Pipe Shop.

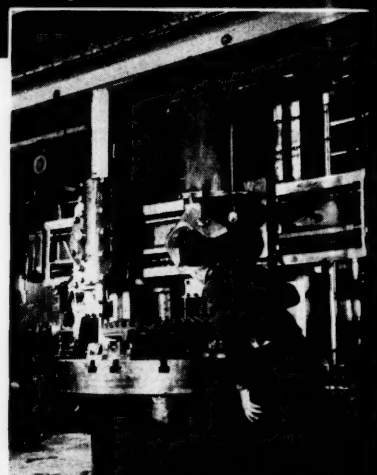
(2)—"Beating out a hot one" on the bending slab.

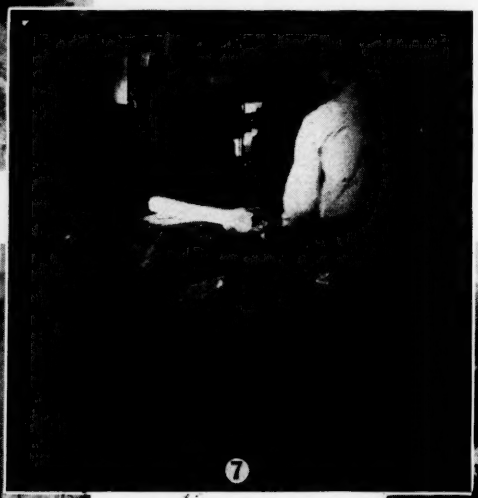
(6) — Vertical turrets are production machines.

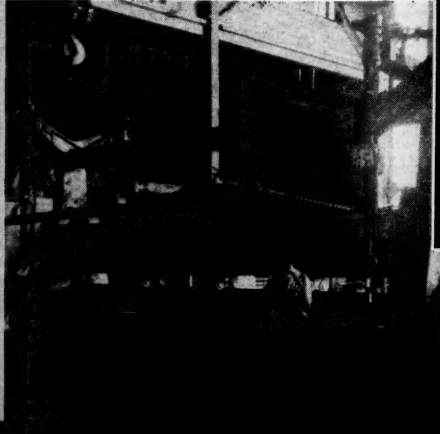


(3)—"Hot dip" in the galvanizing plant.

(10)—Boring Mill.



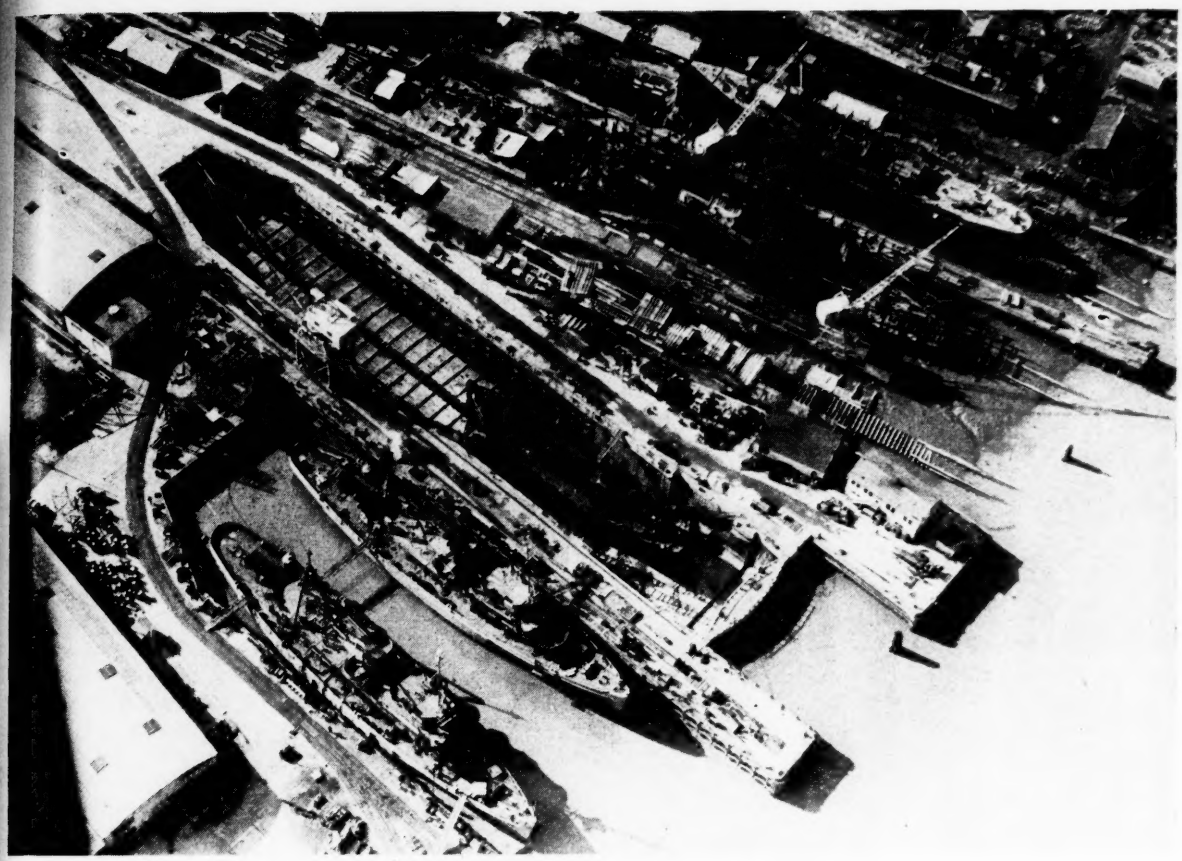




(7)—Blacksmith Shop.

Left (4)—"Big Rolls" in the fabricating shop.

Right (11)—Engraving Department.



Panorama view of the company's Savannah plant.

"No Job Too Large, None Too Small"

REPAIRS to ocean going vessels and the full use of the huge new graving dock located in Savannah will continue to be the business backbone of the post-war Savannah Machine and Foundry Company. However, W. L. Mingledorff, president, has planned to use the enlarged and modern engineering facilities as a means of improving his record of over forty years of service in steel to the Southeast.

A stated policy of "no job too large and none too small" is this company's program in a nutshell. Men, machines, and material are at work to accomplish this purpose. A system of critical inspection guards the company's reputation for careful and exact work.

Such complete facilities for handling production work in metal and wood are equaled by few plants. There is an experienced staff of engineers and designers to draw the plans. Production engineers follow the plans in the shops, which include machine, pipe, sheet metal, copper, joiner, electrical, paint, blacksmith, fabricating, galvanizing, and a large brass and iron foundry. An efficient material handling system includes an extensive railroad, heavy and light cranes, convenient and ample storage areas.

Production jobs of large dimensions are executed in record time on machinery that is almost human. Bullard vertical turret lathes, with swing capacities up to 38 inches in diameter, can perform varied operations without stopping for re-arrangement of its cutting tools. Niles heavy duty lathes handle shafts of steel thirty feet long and up to 48 inches in diameter. One vertical boring mill has a table swing of 54 inches.

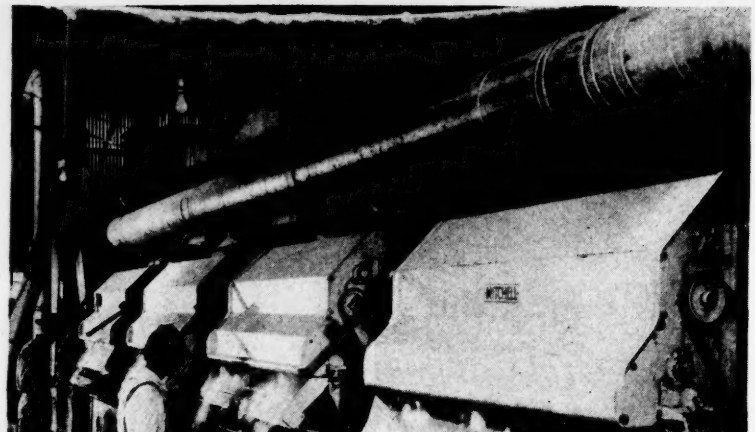
Wallace hydraulic pipe bending machines in the pipe shop can bend not only 6 inch double extra heavy pipe but also can do the more difficult job of bending up to 6 inch light wall tubing. The Pipe Shop can turn out heating and cooling coils as well as fabricate complete sprinkler systems to order.

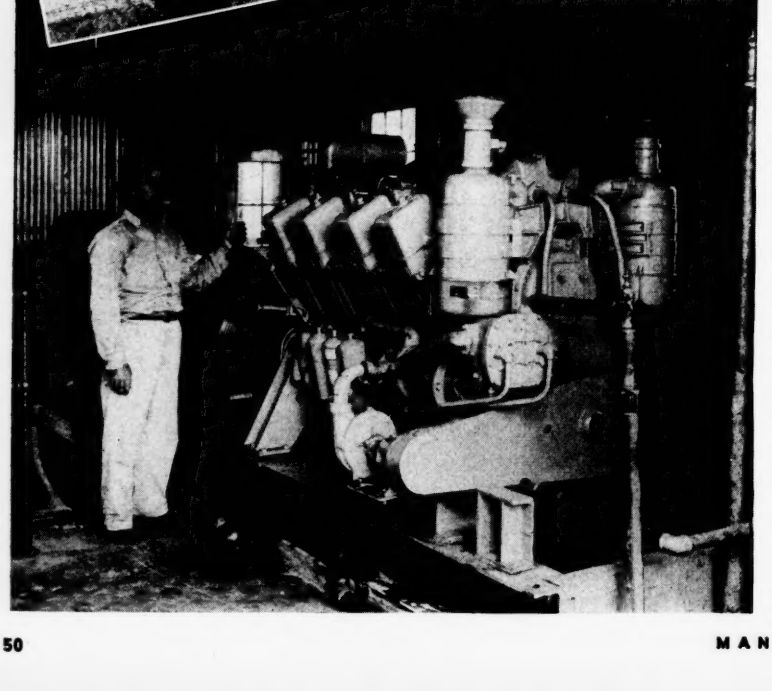
Huge plate bending rolls in the Fabricating Shop handle steel plate up to one inch in thickness, 22 feet wide. Plate and shape furnaces of 30 feet capacity are also located in the Fabricating Shop. A 350-ton hydraulic press is used in shaping heavy structural members.

Large vats of molten zinc stand ready to receive odd shapes requiring galvanizing. This is accomplished by the hot-dip method. Located nearby is the large and modern brass and iron foundry.

Delicate engraving machines are busy with production of finely engraved name and instruction plates.

(Continued on page 80)





Left—Scenes at the Cen-Tennial 4-80 stand cotton gin, Slayden, Miss. At the top is an interior view. The plant can gin 50 bales of cotton per 10-hour day. The middle picture shows the plant's exterior, and at the bottom is the Caterpillar Diesel D17000 engine that powers the plant.

COTTON ginned in the South accounting for more than ninety-three per cent of the country's total, or 7,525,920 bales, emphasizes the importance of ginning in preparing the snowy white fibre for the market.

Size of the ginning industry in the United States is indicated by the fact that the number of active gins shown by the latest survey of the Department of Agriculture was 11,650 with an investment totaling around $175,000,000.

Now a highly specialized commercial activity as compared with its former farm status, gins have decreased in number in the last three decades but have increased in efficiency. Most recent figures assembled by the Department of Agriculture show the number of gins to be 11,650 with the number of bales of cotton placed at 12,564,988.

Cotton ginned in 1910 amounted to 11,608,616 bales, with gins active at that time totaling 26,234. The average decrease in the number of gins per season would bring the figure to around 10,000.

Ginning is done by assessing charges against the seed cotton, against the lint, at a flat charge per bale or through a toll charge under which an agreed part of the seed cotton becomes the property of the ginner. In some instances the rates cover the cost of bagging and ties; in others, the charge is separate.

According to agriculture department officials, the charge on the basis of the hundredweight of seed cotton is in widest use. About 58 per cent of the United States production is ginned on this basis, which is employed in all regions except the Southeast and is used almost exclusively in Oklahoma and Missouri and the western cotton states.

Ginning charges are based on a per-bale rate in most of the states of the Southeast, the officials say. Approximately 70 per cent of the cotton in Alabama, North Carolina,

Southern Gins Handle Most of Country's Cotton Crop

South Carolina and Virginia is ginned on this basis, with the cost of bagging and ties usually included.

About one fifth of the crop is ginned on the basis of a charge per hundredweight of lint cotton. Used to a limited extent in most of the cotton producing states, this system is more predominant in Louisiana and Georgia. Collection of the ginning revenue by the toll method is practiced to a minor extent in states east of the Mississippi River.

The average quantity of seed cotton needed to turn out a given weight of lint varies widely between different producing areas. Chief factors are the variety of cotton, local conditions and the method of harvesting. The seasonal average of picked upland cotton ginned per 500-pound bale during a 13-year period ranged from 1,450 to 1,347 pounds. The required amount has decreased in more recent years.

Seed cotton harvested by snapping, the practice of pulling the bolls from the stalks, includes a larger proportion of foreign matter such as burrs, leaf trash and dirt. Such cotton averages 1,864 to 1,945 pounds per 500-pound bale. Charges for ginning this snapped cotton are higher because of added cost for special cleaning and extracting equipment, increased power requirements and more rapid depreciation of saws and other gin equipment.

Practically all cotton produced in the United States is grown from upland varieties and is ginned on conventional saw-type gins. Two other types — American-Egyptian and sea-island—are ginned on roller gins due to their extra long fibre and comparatively slick seed. The American-Egyptian cotton is grown under irrigation in the west and to some extent in the southwest. Sea-island cotton is produced chiefly in Florida and Georgia.

When the last survey was made, there were more gins in the southeastern states, with the mid-south and southwestern regions vying for second place with about a thousand less each. As gins differ according to the number of gin stands and the latter vary in number and diameter of saws, they are difficult to compare. The average volume of ginnings per gin plant, agriculture department experts point out, is greater in the far west, with the mid-south in second place and the southwest next.

Many gins are equipped with special devices to aid in preserving the quality of the cotton during ginning. Special machinery is used generally where the cotton is snapped or is hauled to the gin in a damp, dirty or trashy condition. The three main types of equipment are driers for conditioning the green or damp seed cotton, cleaners for removing dirt and small particles of foreign matter and extractors for removing burrs and other materials.

Water cooling tower at the Cen-Tennial cotton gin, Slayden, Miss.

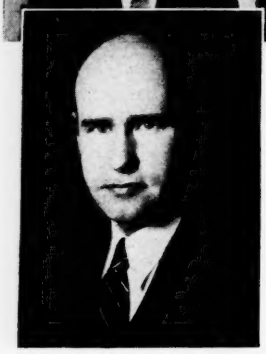
Gins equipped with such auxiliary machinery cost more to erect and maintain and require extra power for operation, with ginning charges reflecting the additional expense. Actual charges to the farmer for ginning services depend not only upon the charges paid for the service but also to the extent that the quality of the lint may be impaired by inferior service.

Practically all cotton in the west and southwest is hauled by farmers in normal times, usually with their own truck or trailer equipment. The proportion hauled by ginner in those regions is negligible. About nine-tenths of the cotton in the mid-south is trucked by farmers; most of the balance, by commercial haulers. Sometimes the ginners haul the cotton without special charge; sometimes, the service is included in the ginning charge.

Supplementary services are performed by the ginners. Some of these are the outgrowth of competitive conditions, while others are voluntary and aim toward improved local production and market practices. In some states the ginners transport bales from the gin to nearby points for the farmers. Usually the bales are trucked to warehouses, cotton yards or railroad loading platforms.

Ginners in most sections allow farmers to store their bales on the gin yard without charge, carrying insurance on such cotton without extra cost to the farmers. Production credit for their customers is still another service provided by some ginners who sometimes advance money to their patrons at the beginning of the harvesting season to pay the costs of picking.

The latest survey of cotton gin ownership showed nearly one-half the gins throughout the Cotton Belt to be owned by individuals, a little more than one-fourth by partnerships, slightly less than one-fourth by corporations and a small proportion cooperatively by cotton farmers. The percentage of gins owned by individuals and cooperatives has increased slightly, while the number of gins owned by corporations has decreased.



Staff of the Industrial Research Institute, University of Chattanooga. Front Row, Left to Right—Raymond M. Woods, physicist; Wilbur K. Butts, biologist; Raymond B. Seymour, director; Frederick W. Hayward, food chemist; Milton Gallagher, physical chemist; Kenneth G. Brill, Jr., geologist.

Back Row, Left to Right—Thomas G. Street, Jr., chemist; George M. Schroder, chemist; J. Horace Coulliette, physicist; George Magin, chemist; W. O. Swan, chemist.

Left—David A. Lockmiller, president of University of Chattanooga.

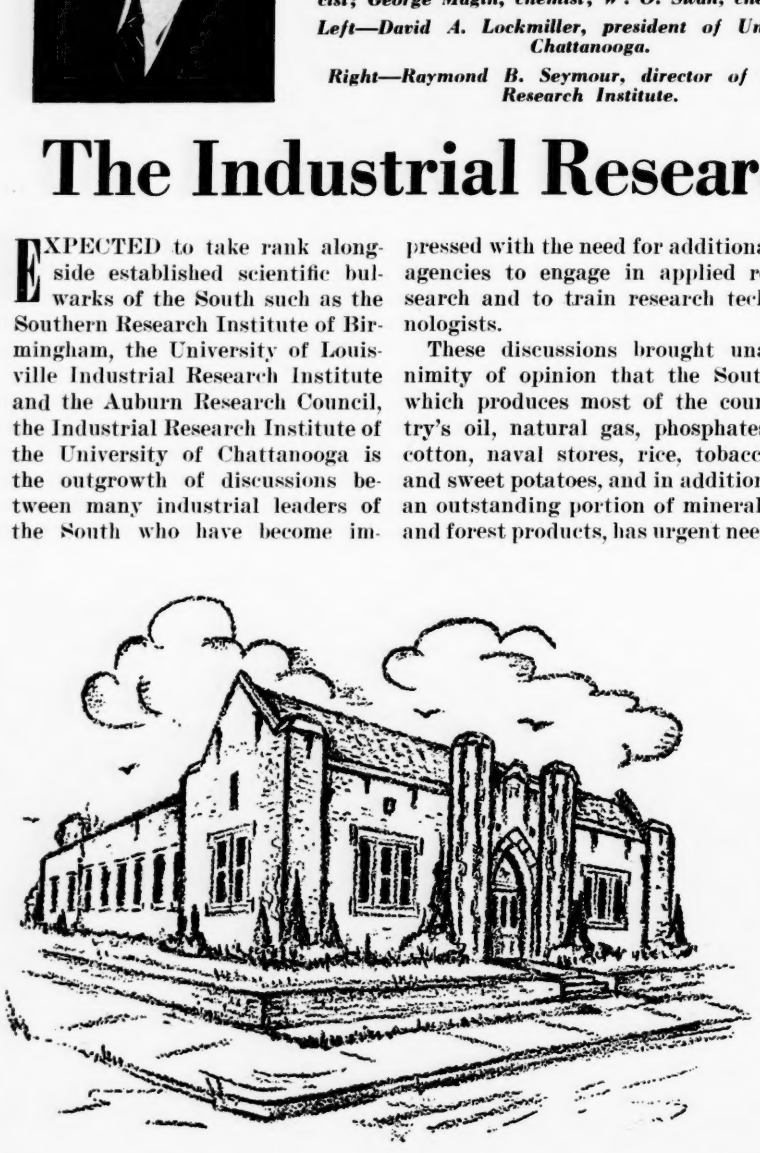
Right—Raymond B. Seymour, director of Industrial Research Institute.

The Industrial Research Institute

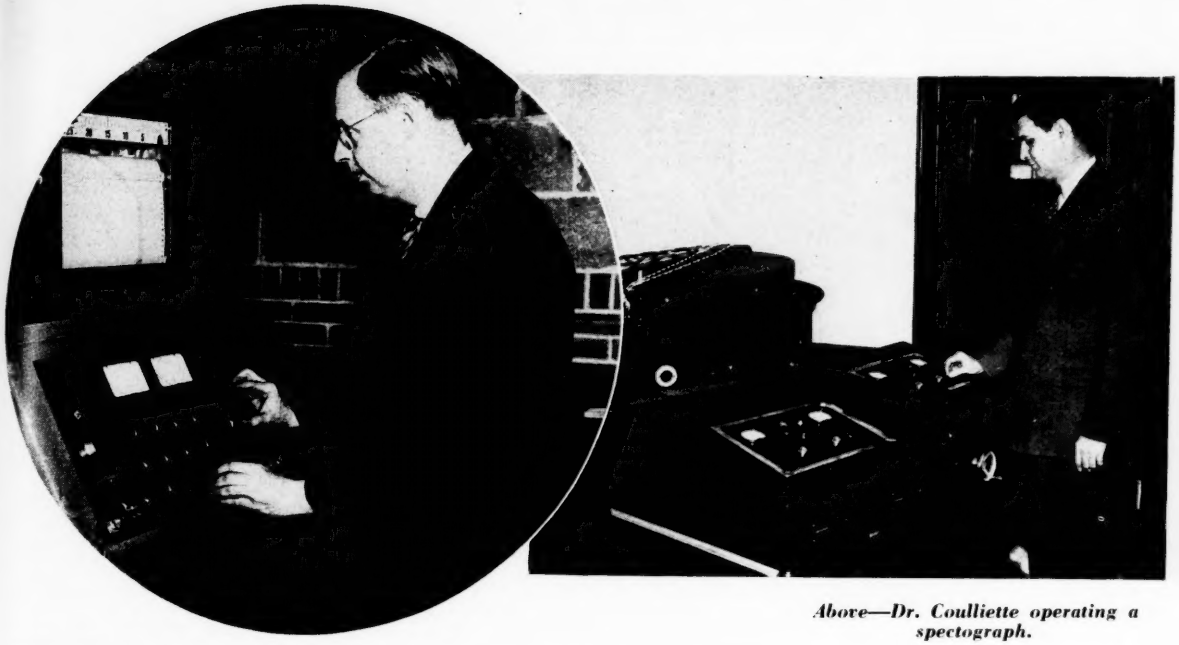
EXPECTED to take rank alongside established scientific bulwarks of the South such as the Southern Research Institute of Birmingham, the University of Louisville Industrial Research Institute and the Auburn Research Council, the Industrial Research Institute of the University of Chattanooga is the outgrowth of discussions between many industrial leaders of the South who have become impressed with the need for additional agencies to engage in applied research and to train research technologists.

These discussions brought unanimity of opinion that the South which produces most of the country's oil, natural gas, phosphates, cotton, naval stores, rice, tobacco and sweet potatoes, and in addition, an outstanding portion of minerals and forest products, has urgent need for increased research in the uses of these natural resources. They also focused light on the certainty that development of natural resources is not something that springs spontaneously from itself. It depends upon research. Natural resources must be developed scientifically.

With a substantial foundation fund in hand, goodly additional amounts pledged, a new $30,000 building and the nucleus of an outstanding staff, the Institute has gotten off to an auspicious start. Important investigations are already under way. Eleven projects are in progress in the fields of organic chemicals, plastics, stream sanitation, textiles, foods, metals and ceramics. A full-time starting staff is on hand consisting of eight scientists, six of whom are Ph. D.'s.



It is understood that an initial cash fund of $100,000 already has been made available and that plans to triple the amount in the near future are meeting with promising success. The Institute building, newly erected on the University campus, adjoins the site of a proposed aeronautical laboratory, and is just across the street from the science building. At present one story high, provision has been made for another story to be added later.



Above—Dr. Coulliette operating a spectograph.

Circle—Dr. F. W. Hayward operating a recording polarograph.

It now has floor space of 3,000 square feet and is divided into nine departments: director's office, library conference room, lobby and six laboratories. The laboratories are equipped with Kewaunee bench-shaving fume ducts. Electricity and gas, hot, cold and distilled water, and drain service are at each bench.

For the present, an additional space of 4,500 square feet has been made available in an adjacent building to house a well-equipped shop, metallurgical laboratory, physical testing equipment and stock room.

The main building is equipped with all the usual apparatus found in modern laboratories, including a Dietert emission spectograph, installed in a dark room, a Sargent recording polarograph and a number of spectrophotometers. Expected to be added are a metallograph, X-ray diffraction apparatus, fadometer, weatherometer and infracted spectrophotometer.

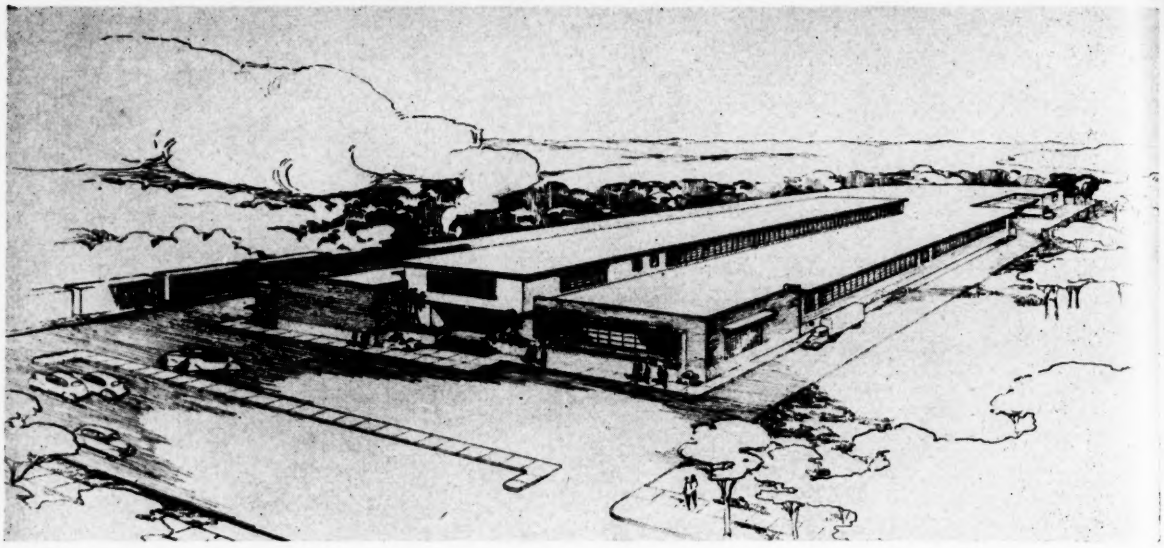
Heading the Institute staff, Dr. Raymond B. Seymour, its 34-year-old director, is described by President of the University Dr. David A. Lockmiller as being the only one of numerous candidates for the position to survive after months of search extending from Massachusetts to California. Dr. Seymour received the B. S. degree in chemical engineering from the University of New Hampshire in 1933. In 1935, he received the M. S. degree from the same institution with a major in organic chemistry. He received his Ph. D. degree in organic chemistry at the State University of Iowa in 1937.

Dr. Seymour's industrial experi-

(Continued on page 70)

Below—Dr. Gallagher at the titrimeter.

Above—Dr. Seymour and Chemist Street in the organic laboratory.



Above — McKesson & Robbins, Inc., will construct offices and warehouses involving expenditure of $500,000 at Houston, Texas. Scheduled for completion about July 15, the project will contain 95,000 square feet of floor space and measure 256 by 426 feet. A railroad siding served by the Missouri Pacific will extend the width of the property. Designed by Hermon Lloyd, of Houston, and to be erected by Linbeck & Dederick Construction Co., the building will be of concrete, masonry and steel construction, one story high. It will contain sound-proofing, air conditioned offices and will have forced air ventilation, and belt conveyor system.

South's February Contracts Total $130,049,000

by

SAMUEL A. LAUVER

THE February $130,049,000 total for awards below the Mason and Dixon line took its place in southern construction history as the fourth highest aggregate on record for the second month.

Contrasted against the wartime industry awards that pushed the comparable period of 1945 to a high place among February construction statistics, private building and heavy engineering awards boosted the current February total to its high level.

Private building—more than one-half residential—contributed $35,021,000 to the current February figure, while heavy engineering construction supplied an additional $33,883,000 to bring the total of the classifications above fifty per cent of February's $130,049,000.

Industrial construction awards, which during the second month of last year amounted to $87,597,000, in the current February totaled $28,609,000. Highway projects in the contract stage reached $17,303,000, with public building low among the various types of work at $15,233,000.

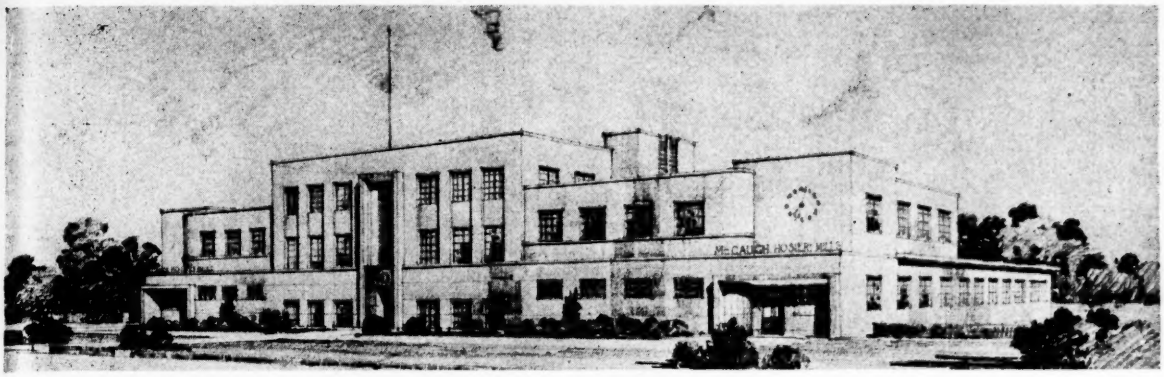
The current February total was more than twenty-eight per cent above the $100,950,000 of January although it was slightly below the $130,823,000 for February of last year. Private building, public building, engineering construction, and highway work were stronger in February than January.

The total of contracts awarded in the South during the first two months of this year is $230,999,000, or over twelve per cent more than contracts totaled in the first two months of last year. Industrial construction totaling $66,339,000 topped the two-month list, with private building ranking second at $61,187,000; engineering third, $43,207,000, public building fourth, $30,354,000.

Highway construction so far this year is almost four times the figure for the comparable period of last year. The cur-

SOUTH'S CONSTRUCTION BY TYPES

	February, 1946 Contracts Awarded	February, 1946 Contracts to be Awarded	Contracts Awarded First Two Months 1946	Contracts Awarded First Two Months 1945
PRIVATE BUILDING				
Assembly, (Churches, Theatres, Auditoriums, Fraternal)	$ 3,695,000	$ 9,484,000	$ 5,126,000	$ 1,045,000
Commercial (Stores, Restaurants, Filling Stations, Garages)	11,971,000	24,399,000	20,287,000	1,328,000
Residential (Apartments, Hotels, Dwellings)	18,017,000	70,172,000	32,187,000	8,027,000
Office	1,338,000	5,537,000	3,587,000	437,000
	$ 35,021,000	$109,592,000	$ 61,187,000	$ 10,837,000
INDUSTRIAL	$ 28,609,000	$140,375,000	$ 66,339,000	$119,939,000
PUBLIC BUILDING				
City, County, State, Federal and Hospitals	$ 11,224,000	$ 70,355,000	$ 20,983,000	$ 33,227,000
Housing	.....	.....	100,000	5,700,000
Schools	4,009,000	36,174,000	9,271,000	2,854,000
	$ 15,233,000	$106,529,000	$ 30,354,000	$ 41,781,000
ENGINEERING				
Dams, Drainage, Earthwork, Airports	$ 31,470,000	$ 89,213,000	$ 34,249,000	$ 16,936,000
Federal, County, Municipal, Electric	183,000	6,886,000	4,603,000	1,380,000
Sewers and Waterworks	2,230,000	19,142,000	4,355,000	6,251,000
	$ 33,883,000	$115,241,000	$ 43,207,000	$ 24,567,000
Roads, Streets and Bridges	$ 17,303,000	$121,767,000	$ 29,912,000	$ 7,937,000
TOTAL	$130,049,000	$593,504,000	$230,999,000	$205,061,000



rent two-month total is $29,912,000, toward which February contributed $17,303,000. Texas, Alabama, South Carolina, Georgia and Oklahoma were especially active. Other southern states are preparing for greatly increased programs in the months to come.

Several large dam projects came up during February, with one being awarded. This was the $18,500,000 flood control project to be known as the Wolf Creek dam on the Cumberland River in Russell County, Kentucky. A $3,527,000 harbor improvement project at Baltimore was also a heavy contributer to the engineering total.

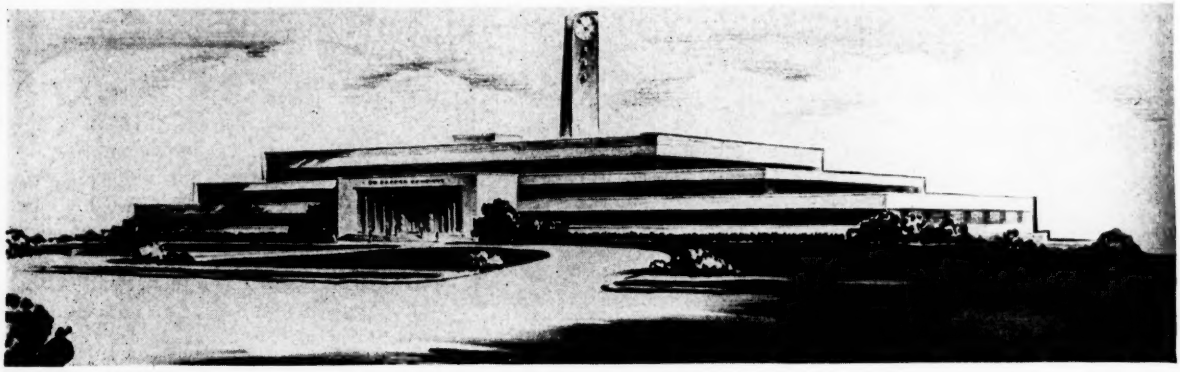
Despite the lower figure for industrial construction, a number of projects were included in the active list for the month.

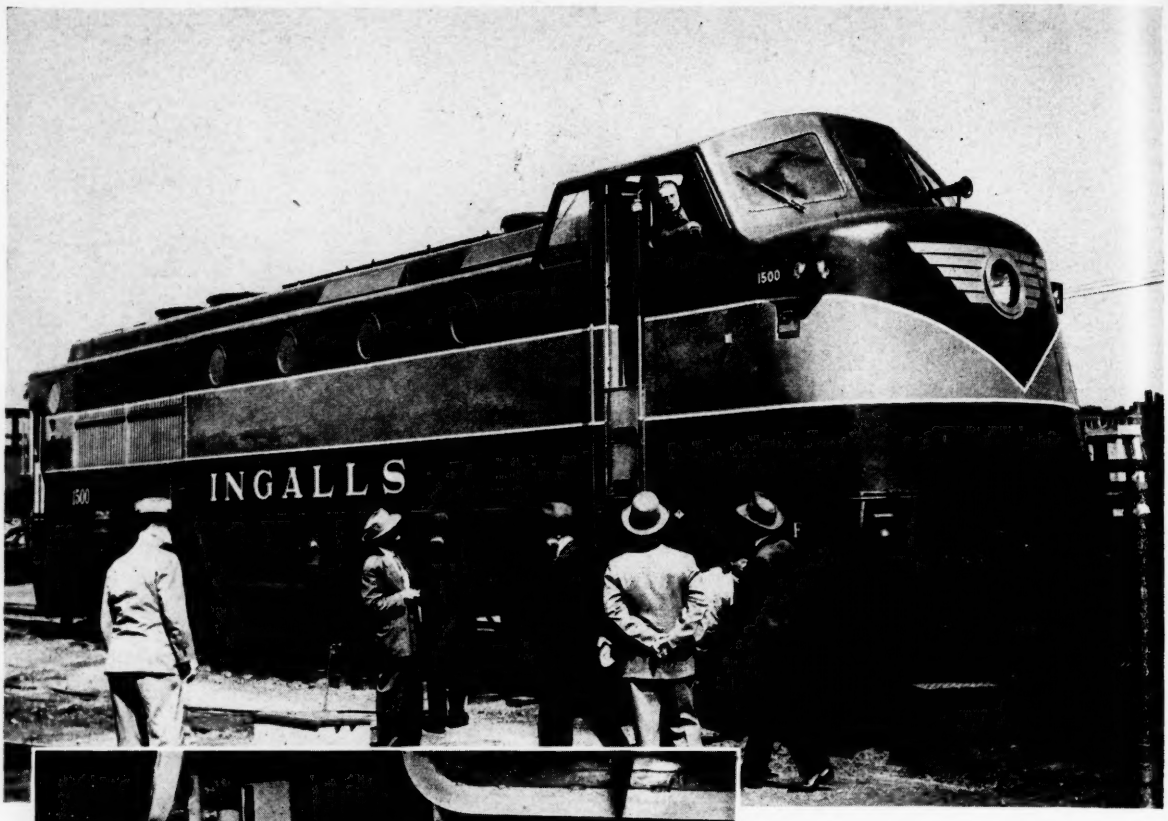
Above — Present output of McGaugh Hosiery Mills, Dallas, Mineral Wells and New Braunfels, Texas, will be quadrupled when the expansion program now under way is completed. New type glass insulation and complete air conditioning throughout all three plants will stabilize temperature and humidity in the knitting rooms, where even a five degree change will affect nylon. Pipes laid in the floor will carry cold water in the summer and heated water in the winter. The Dallas plant will have 40,000 square feet of floor space; the New Braunfels plant, over 20,000 square feet and the Mineral Wells plant, 12,000 square feet. The drawing is of the Dallas plant.

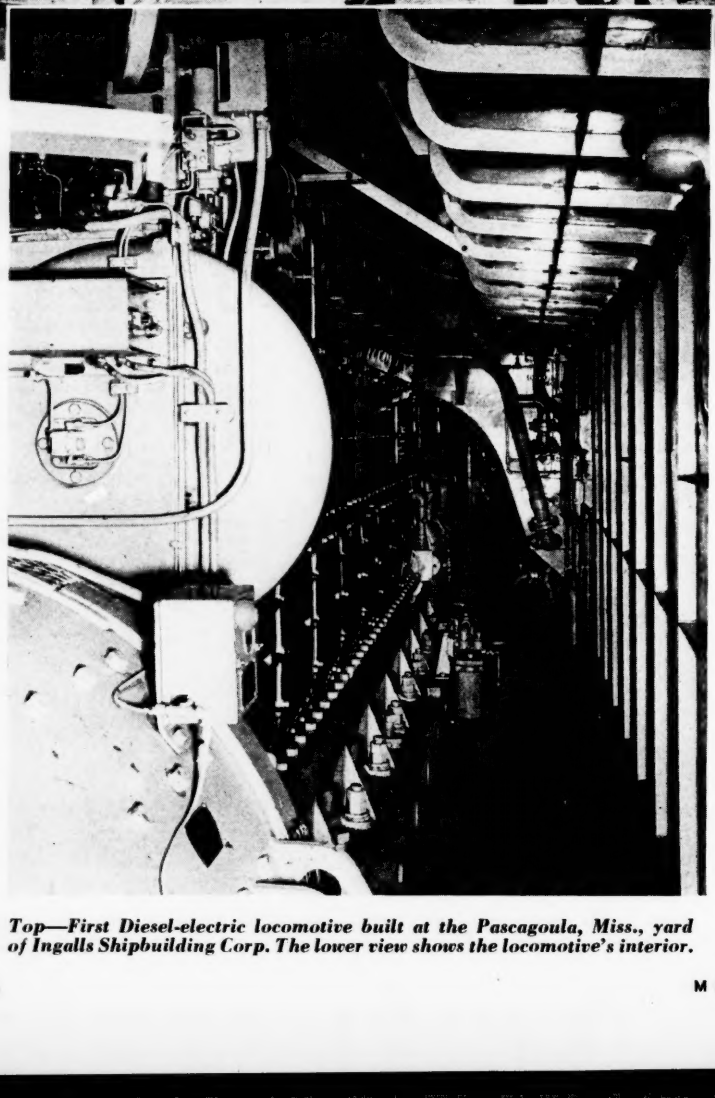
SOUTH'S CONSTRUCTION BY STATES

	February, 1946		Contracts Awarded First Two Months 1946	Contracts Awarded First Two Months 1945
	Contracts Awarded	Contracts to be Awarded		
Alabama	$ 4,973,000	$ 11,730,000	$ 6,111,000	$ 70,962,000
Arkansas	590,000	8,326,000	2,274,000	397,000
District of Columbia	793,000	2,035,000	3,820,000	6,058,000
Florida	10,012,000	157,522,000	22,682,000	14,340,000
Georgia	20,421,000	29,265,000	24,374,000	4,882,000
Kentucky	23,955,000	5,600,000	27,358,000	3,659,000
Louisiana	7,908,000	11,728,000	13,516,000	4,552,000
Maryland	13,779,000	48,278,000	19,683,000	8,401,000
Mississippi	4,385,000	65,467,000	21,075,000	5,692,000
Missouri	628,000	39,784,000	1,190,000	2,846,000
North Carolina	4,645,000	11,052,000	9,883,000	4,557,000
Oklahoma	7,060,000	11,924,000	7,948,000	1,377,000
South Carolina	4,220,000	8,514,000	5,847,000	2,791,000
Tennessee	4,533,000	16,802,000	5,921,000	16,110,000
Texas	19,221,000	148,213,000	55,260,000	51,560,000
Virginia	2,056,000	10,074,000	2,649,000	6,790,000
West Virginia	870,000	7,190,000	1,408,000	67,000
TOTAL	$130,049,000	$593,504,000	$230,999,000	$205,061,000

Below — A $1,500,000 plant with 276,000 square feet of floor space will be established at Dallas, by Dr. Pepper Co. The project will be erected by Inge Construction Co., of Dallas. Designs by Thomas, Jameson & Merrill, Dallas, architects, call for an exterior of stone and brick with continuous horizontal bands of glass blocks. The entrance facade will be Indiana cut limestone. Front of the lobby will be a curved wall of thermo-glass between space marble columns 22 feet in height. Doors will be of aluminum and crystal glass. A feature of the building will be a triangular pylon tower 124 feet high with clocks set in three sides. Carillon bells will be installed. The front lobby will be paneled in walnut; mosaic design flooring will be heavy rubber tile. A cafeteria and dining room will be on the first floor, where the testing laboratories and bottling department will be located. On the second floor will be storage space for the initial processes for compounding syrup. A landscaped terrace roof garden on the roof is part of the plan. Shops, freight handling and other activities incident to manufacturing and shipping will be housed in the sublevel ground floor and a large garage at the rear. Executives and the staff will be quartered on the third floor.







Top—First Diesel-electric locomotive built at the Pascagoula, Miss., yard of Ingalls Shipbuilding Corp. The lower view shows the locomotive's interior.

Mississsippi Yard Makes Diesel-Electric Locomotives

ONE of the South's remarkable examples of ingenuity in reconverting from war to peacetime production is under way today at the Ingalls Shipbuilding Corporation's yards at Pascagoula, Mississippi. That company has just produced the first Diesel electric locomotive ever turned out in the region and what is believed to be the first ever made in a shipyard anywhere.

That first Diesel—a powerful 1,500-horsepower locomotive — was given its initial public demonstration recently with enthusiastic response.

As a result, Ingalls has disclosed that its plans call for the production of several hundred of the Diesel lo-

(Continued on page 64)

Southern Industrial Expansion

ALABAMA

BIRMINGHAM—Service Building—McElroy Motor Co. let contract at $200,000 for sales and service building.

CHILDERSBURG—Plant — Coosa River Newsprint Co. plans $10,000,000 newsprint plant.

EUFAULA—Plant—J. R. Williams plans to build a modern dry cleaners plant.

MONTGOMERY—Building—Builders' Supply, Inc., incorporated with capital of $50,000, plans manufacturing certified concrete block units.

SHEFFIELD—Expansion — Reynolds Metals Co. plans expansion of its aluminum rolling mills near Sheffield.

ARKANSAS

CAMDEN—Expansion — Camden Furniture Co. will spend $250,000 on expansion.

HELENA—Station Wagon Plant — Pekin Wood Products Co., subsidiary of Chrysler Corp., will erect $2,000,000 station wagon body plant.

MALVERN—Plant — Magnet Cove-Barium Corporation plans enlarging $250,000 plant.

PINE BLUFF—Plant — C. Finkbeiner and Company will erect $250,000 meat-packing plant.

SPRINGDALE—Plant—Welch Grape Juice Co., Westfield, N. Y., to spend $500,000 for plant enlargement; expanded factory will represent $1,000,000 investment, employ 100 to 250 workers, with $300,000 payroll.

FLORIDA

DADE COUNTY—Warehouse — Joe Marrs plans warehouse; $15,000.

DADE COUNTY—Plant — H. F. Mosley & Son has permit for canning and packing plant, cost $50,000.

JACKSONVILLE—Warehouse — Clark and Lewis received low bid at $174,588 for office and warehouse.

KEYSTONE HEIGHTS—Sub-station—Contract let for buildings at $110,300; electric switchboard and sub-station, at $84,066; Clay Electric Co-operatives, Inc., owner.

MIAMI—Warehouse — Charles Roman will construct warehouse to cost $25,000.

MIAMI—Warehouse — Silver Paint Co. let contract for warehouse and store building; cost $25,000.

MIAMI—Plant—Sam Askowitz applied for permit for bottling plant.

MIAMI—Warehouse — Certified Poultry & Egg Co. to let contract for warehouse.

MIAMI—Warehouse — Acme Supply plans warehouse.

MIAMI—Hangar, Etc.—Eastern Air Lines, Inc., plans hangar and shop building.

MIAMI—Warehouse—Bennett & Copeland let contract for warehouse; $45,000.

MIAMI—Warehouse — Chalmer Properties, Inc., applied for permit for warehouse addition and repairs to present building to cost $17,000 and $11,000.

MIAMI—Warehouse—E. W. McIntyre, Jr., Washington, D. C., has plans for warehouse; cost $45,000.

MIAMI—Addition—Renuart Lumber Yards contemplates addition to factory; cost $35,000.

ORLANDO—Broadcasting Station — Contract let for broadcasting station for WDBO; approximate cost $100,000.

PALATKA—Buildings—Hudson Paper Co. let contract for plant.

GEORGIA

ATLANTA—Plant—Bob's Cola let contract at $65,000 for office and plant building.

ATLANTA—Warehouse — Calotabs Co. let contract for office building and warehouse; cost $26,700.

ATLANTA — Building—Procter & Gamble received low bid of $51,540 for laboratory and office building.

BUCHANAN—Plant — Buchanan Citizens plans manufacturing plant; cost $30,000.

CHAMBLEE—Plant — Berkeley Pump Co. contemplates manufacturing plant, cost approximately $100,000.

COMMERCE—Plant — Commerce Manufacturing Co. plans construction of additional building and cafe at its plant.

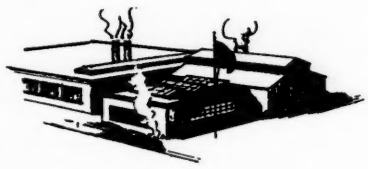
DECATUR—Laundry — Morgan Cleaners and Laundry have plans for building.

DORAVILLE—Plant—Boyle-Midway, Inc., plans manufacturing plant; cost $600,000.

HAZELHURST—Plant—Sparks Food Products Co. plans modern cannery; approximately $48,000.

McDONOUGH — Factory — The Alabama Textile Manufacturing Co. of Atlanta plans branch factory.

MACON—Motor Building—Chapman Motor



Co. let contract at $65,000 for automobile sales agency building.

McRAE—Plant—Peninsular-Burton Co. has plans for turpentine plant.

MOULTRIE—Buildings—Guy L. Bynum let contract for Sales & Service Building.

PORT WENTWORTH, BR., SAVANNAH—Plant—The Southern Paper Board Corp. announced $12,000,000 paper mill project.

SAVANNAH—Warehouse—Contract let for $100,000 warehouse for the Max Movsovitz Produce Co.

WASHINGTON—Plant — Lure Ice Cream Co. proposes a modern ice cream plant to cost $100,000.

KENTUCKY

LOUISVILLE—Repairs — Kentucky Rock Asphalt Co. will expend approximately $200,000.

LOUISVILLE — Warehouses — Belknap Hardware & Manufacturing Co. plans two warehouses to cost $300,000.

LOUISIANA

Plant—Sun Oil Co. developing plans for natural gasoline plant in Delhi Field.

ABBEVILLE—Plant—Adam P. Smith plans quick-freeze plant for processing seafood.

ALEXANDRIA—Radio Station — Federal Communications Commission granted permission to Central Louisiana Broadcasting Corp. for new standard radio station at Alexandria.

BATON ROUGE—Warehouse — Cash Grocery and Sales Co. let contract for warehouse building.

CEDAR GROVE, STA. SHREVEPORT — Factory—Kroehler Furniture Manufacturing Co. plans $250,000 furniture factory.

DeRIDDER — Building — Maj. Edwon Ebright let contract for Locker Service plant; cost approximately $25,000.

EARTH — Plant — Charles Caldwell announced a dehydrating plant will be erected and that $60,000 co-operative creamery is also planned.

KAPLAN—Plant — Capt. M. C. Miles and Harry Hartman plan erection of meat-packing plant.

NEW ORLEANS—Building — H. J. Heinz Co. proposes new plant building.

NEW ORLEANS—Radio Range—Civil Aeronautics Administration received bids for labor and material for a VHF radio range facility.

NEW ORLEANS—Building—FAB Distributing Co. received low bid of $76,305 for building.

NEW ORLEANS—Plant — $500,000 plant planned for Kieckhoffer Container Co.

NEW ORLEANS—Plant—Bids received for installation of 15-ton air-conditioning system in offices of New Orleans Ice Cream Co.

SHREVEPORT—Radio Station — Shreveport Times plans modern new home for the TIMES and 50,000-watt radio station, KWKH, to cost $1,250,000.

SHREVEPORT—Airpark—Shreveport Airpark, Inc., incorporated with capital of $150,000, plans development of privately-owned airport.

MARYLAND

Seaplane Base — Harry Carl has started work on seaplane base on the north bank of Back River.

Airport—Calvert Aviation Co., Inc., filed application and approved by State Aviation Commission for airport.

AMERICAN CORNERS, R. D FROM HOBBS—Plant — Monmouth Products Co., Jersey City, N. J., plan freezing plant.

ANNE ARUNDEL COUNTY — Airport — State Aviation Commission approved plan of Baltimore City for construction of new municipal airport on the Friendship Church site, near Linthicum Heights.

BALTIMORE—Warehouse—Allied Contractors, Inc., completed plans for warehouse.

BALTIMORE—Addition—White Paint Co plans addition to warehouse; cost $70,000.

BALTIMORE—Warehouse—B. Green & Co. let contract for warehouse; cost $250,000.

BALTIMORE—Plant—Dr. Pepper Bottling Works let contract for building.

BALTIMORE — Building — Warner-Fruehauf Trailer Co. let contract for shop building; cost $18,000.

BALTIMORE—Warehouse — Eastern Venetian Blind Co. let contract for warehouse; cost $15,000.

BALTIMORE—Building—George S. Gardner let contract for building; cost $17,000.

BALTIMORE—Building—Anderson Motor Co. let contract for service building; cost $50,000.

BALTIMORE—Building — John H. Geis & Sons has plans in progress for building.

BALTIMORE—Building—Western Electric Co. let contract for cable building; cost $1,500,000.

BALTIMORE—Bakery—Wassell Pie Bakery let contract for bakery; cost $50,000.

BALTIMORE COUNTY — Shop—Hyles M. Arnew has plans for welding shop.

BALTIMORE COUNTY—Warehouse—Carl F. Weber let contract for warehouse; cost $20,000.

CAMBRIDGE — Airport — State Aviation Commission approved Benjamin R. Wallace's application for construction of a Class 1 airport on the outskirts of Cambridge.

EMMITSBURG—Plant—L. E. Beaudin will start work soon on new $65,000 shoe plant.

FREDERICK—Airport—Civil Aeronautics Authority, New York, N. Y., received low bid for preliminary work on the Frederick municipal airport.

HOWARD COUNTY—Plant—Wilton Farms Orchards let contract for cold storage plant.

LEONARDTOWN—Airport—Capt. Kendall Winton Everson and Capt. John Thomas Daugherty plan Class 1 airport at Tall Timbers, in St. Mary's county.

MISSISSIPPI

Radio Range—Civil Aeronautics Administration received bids for labor and material for VHF radio range facilities at McComb, Jackson and Meridian.

CLARKSDALE—Improvements — Contract let for power plant improvements, estimated cost $57,000.

GREENVILLE—Buildings—Goyer Co. has permit for warehouse and coffee plant; cost $50,000.

GRENADA—Plant — Manufacturing plant planned, to be leased to Binswanger Co. of Memphis, Tenn.; cost approximately $70,000.

GULFPORT—Bakery—General Baking Co. will begin operation about May 1 for modern bakery, investment of $250,000.

JACKSON—Ice Cream Plant—Borden Co. received bids for ice cream manufacturing and distribution plant with retail store to cost $250,000.

JACKSON—Office Building — Sanders Co., Inc., let contract for office and sales building, to cost approximately $225,000.

JACKSON—Warehouse — Arkansas-Louisiana Fuel Co. let contract for warehouse building; cost $20,000.

JACKSON—Plant—Borden Co. let contract for ice cream manufacturing and distribution plant with retail store; cost $250,000.

MACON—Bottling Plant—Mrs. R. N. Henry let contract for bottling plant.

MAGEE—Garment Plant—Plans being revised for $75,000 garment plant for Rebel Garment Co.

MOSS POINT—Plant — Standard Products Co., Whitestone, Va., plans menhaden fish plant.

NATCHEZ—Plant — Johns-Manville Corp. plans insulating board factory near Natchez at estimated cost of $5,000,000.

NEWTON—Bus Station—M. A. Connett will begin work on new bus station, Decatur and Third Sts.

NEWTON—Bonds—City approved issuance of $150,000 industrial plant bond issue.

QUITMAN—Building—Contract let for hosiery plant building for Holeproof Hosiery Co.; cost approximately $150,000.

MISSOURI

KANSAS CITY—Building—Owens-Corning Fiberglas Co. has acquired structure plans to redesign.

KANSAS CITY—Building—Sears, Roebuck & Co. let contract for building; cost nearly one million dollars.

KANSAS CITY—Plant — E. K. Campbell Heating Co. has acquired site; will renovate; estimated cost $30,000.

KANSAS CITY—Building — Aines Farmy Dairy Co. let contract for new plant and office building, Gillham Road; estimated cost $200,000.

KANSAS CITY—Plant, Etc.—C. J. Patter-

Southern Industrial Expansions

son Co. let contract for new building; estimated cost $95,000.

MONETT—Plant—Missouri Farmers Association plans $500,000 milk processing plant.

MONETT—Plant — Carolene Products Co. plans $300,000 plant for manufacture of "filled milk."

ST. LOUIS—Factory— Rawlings Manufacturing Co. let contract at $200,000 for factory.

ST. LOUIS—Office & Factory — Boyle & Duncan let contract at $8,000 for office and factory building.

ST. LOUIS—Power House & Tunnel—Anheuser Busch, Inc., let contract at $25,000 for power house, coal hopper and tunnel.

ST. LOUIS—Building—Vestal Chemical Co. let contract for addition to factory; cost $10,000.

ST. LOUIS—Factory—Pittsburgh Erie Saw Corp. let contract for factory; cost $25,000.

ST. LOUIS—Pool—St. Louis Boat & Motor Co. let contract at $10,000 for concrete pool, 100 by 160 feet, for boat display.

ST. LOUIS—Factory — Car-Anth Manufacturing & Supply Co. let contract at $30,000 for factory.

ST. LOUIS—Shop & Office — All American Bus Co. let contract at $70,000 for office and shop.

ST. LOUIS—Factory Addition — Schultz Inv. Co. let contract for addition.

ST. LOUIS—Office & Shop—Wm. Lamear let contract at $14,000 for printing office and shop.

NORTH CAROLINA

ASHEBORO — Plant — Cummings Frozen Foods let contract for freezer locker plant.

BLACK MOUNTAIN — Mill — Monroe Hosiery Mill incorporated capital $100,000; hosiery.

BURLINGTON—Improvements — Southern Bell Telephone Co. plan new telephone system for city; $775,000.

BURLINGTON—Plant — Contract let for new plant for Stratford Hosiery Corp.

BURLINGTON—Expansion—Copland Fabrics, Inc., plans $600,000 expansion program.

CHARLOTTE—Building—Heath Motor Co. let contract for building.

CHARLOTTE—Warehouses—A. J. Hagood let contract for five warehouses.

CHARLOTTE—Warehouse — Norbee Corp. let contract at $20,000 for warehouse.

CHARLOTTE—Printing House — Herald Press Co., Inc., let contract for printing house.

CHARLOTTE — Warehouse — Southern Bearings and Parts Co. let contract at $40,000 for warehouse.

CHARLOTTE—Plant — Jack's Cookie Co. let contract for plant.

CHARLOTTE—Addition — Lassiter Press, Inc., let contract for $225,000 expansion.

CHARLOTTE — Office — W. H. Hobbs, Inc., let contract at $25,000 for office and plumbing shop.

CHARLOTTE — Plant — Mac-Anne Co., Inc., High Point, let contract for $50,000 for ice cream plant.

GASTONIA—Central Yarn & Dyeing Co. of Gastonia, incorporated at $300,000 capital, deal in textile fabrics.

GOLDSBORO — Bakery — Maid-Rite Bakery, let contract for bakery.

GREENSBORO — Plant — Container Corporation of America, plans new plant; will occupy eight acres of land.

GREENSBORO—Expansion — Mojud Hosiery Co., Inc., plans $1,500,000 expansion and improvement program.

GREENSBORO — Warehouse — Strietmann Biscuit Co., let contract for $50,000 distributing warehouse.

HICKORY — Expansion — The Kenworth Hosiery Mills, and Hendrix Hosiery Mills, plan expansion programs.

KINGSTON—Addition—City has FWA advanced $17,319 for addition to the municipal electric power plant.

NEWTON—Building—T. Manley Whitener plans new building, to house the North State Knitting Mill and Hickory Knit Products Co.

SALISBURY—Building — Salisbury Motor Co., Salisbury, N. C., let contract for building.

WINSTON-SALEM — Nylon Mill — Duplan Corporation, received bids for Nylon Mill.

OKLAHOMA

FORT GIBSON—Dam—U. S. Engineer Office, Tulsa, received bids for Fort Gibson Dam, Grand (Neosho) River.

TULSA—Landing System — Civil Aeronautics Administration, has plans for instrument landing system and approach light lane, Tulsa Municipal Airport.

SOUTH CAROLINA

BARNWELL—Locker Plant—Herman Warren and W. S. Williamson let contract for freezer locker plant.

BELTON—Plant—Fred Hill let contract at $15,000, for freezer locker plant.

CHARLESTON—Plant—Carolina Ice Cream Co., will construct a new plant.

CHARLESTON—Warehouse—Peoples Motor Co., has permit for warehouse, cost $16,000.

CHARLESTON—Landing & Light System—Civil Aeronautics Authority let contract at $21,382 for instrument landing system and lighting system.

COLUMBIA—Mills—Dapper Hosiery Mills, Inc., Clinton, incorporated to manufacture hosiery.

COLUMBIA — Mill—J. B. Fawcett & Co., establishing new mill for production of anklet sox.

DENMARK—Plant— Herman Warren and W. S. Williamson let contract for freezer locker plant.

GREENVILLE—Building — Greenville Industries, Inc., let contract for factory building.

GREENVILLE—Plant—Nehi Bottling Co., plans $100,000 plant on the superhighway near the city limits.

GREENWOOD—Steam Plant — Greenwood County Electric Power Commission, plans $1,000,000 kilowatt steam plant.

WINNSBORO—Shop—Hanna & Doty, plan a new show room and repair shop.

WINNSBORO—Building — Fairfield Motor Parts, Inc., has completed plans for office and parts building.

TENNESSEE

CELINA—Powerhouse—Low bid received at $1,720,246 for completion of Dale Hollow Powerhouse.

CHATTANOOGA—Plant — Century Boat Co. of Manistee, Mich., has leased the Chattanooga Sash & Millwork Company's plant for manufacture of plywood and "car-borne" boats.

JACKSON — Building — Jackson Foundation, Inc., plans factory building, cost $100,000.

KNOXVILLE—Landing & Lighting System —Civil Aeronautics Authority let contract at $18,945 for instrument landing system and lighting system.

KNOXVILLE—Office—Osborne Equipment Co. let contract for office and warehouse to cost $35,000.

MEMPHIS—Radio Range — Civil Aeronautics Administration received bids for construction of a V. H. F. radio range facility near Memphis.

MEMPHIS — Building — General Motors Corp., contemplates new 45,000 sq. ft. sales distribution building, cost approximately $175,000.

MEMPHIS—Plant—International Harvester Company, received bids for manufacturing plant.

MEMPHIS—Conversion — Monroe Manufacturing Corp., chartered; to convert and fabricate raw materials into curtains.

MEMPHIS — Building — Best Lumber & Hardware Co., starting work on $40,000 addition.

MEMPHIS—Storage Silos — Missouri Portland Cement Co. has permit for storage silos and packing house, cost $154,000.

MEMPHIS—Warehouse — Tennessee Coal, Iron & Railroad Co. of Birmingham, Ala., a subsidiary of U. S. Steel, seeking permit for erection of warehouse at cost of $300,000.

NASHVILLE—Plant — Dempster Brothers, Inc., has plans for a $200,000 plant.

NASHVILLE—Addition—Marshall & Bruce Co., plan $100,000 addition to plant.

NEWPORT — Mill—The Davis Hosiery Mills, incorporated by James E. Corn, to operate hosiery mill.

SWEETWATER — Mill — Monroe Hosiery Mill, Black Mountain, acquired Sweetwater Hosiery Mill.

TEXAS

TEXAS — Radio Range — Civil Aeronautics Administration plans construction of a very high frequency radio range set at El Paso, Salt Flat, Orla Wink, Big Spring, Abilene and Fort Worth.

ABILENE—Cleaning Plant—J. A. Young let contract for building to cost $75,000.

AUSTIN—Warehouse — John W. Green let contract for warehouse, to cost $20,232.

BEEVILLE—Food Locker — Capt. Antonio Reyes plans frozen food locker and processing plant to serve Bee County farmers and ranchers.

BIG SPRING — Business Building — Big Spring Daily Herald, plans business building.

BROWNSVILLE—Plant — La Gloria Corp. plans $14,000,000 synthetic gasoline plant in Brownsville area.

CORPUS CHRISTI—Plant—Corpus Christi Cold Storage & Locker Co., plans food processing and storage plant.

DALLAS—Warehouse—Metal Goods Corp., let contract for a warehouse, to cost approximately $180,000.

DALLAS — Plant — C. E. Shaw & R. B. Barnes, 1301 2nd Ave., will construct bottling plant, cost $100,000.

DALLAS — Addition — Motor Investment Co., let contract at $40,000 for office building addition.

DALLAS—Building — Roland F. Beers, has permit for building, to cost $75,000 .

DALLAS — Buildings — McFadden-Miller-Smith, has permit for two buildings, to cost $60,000 and $50,000.

DALLAS — Building — Geophysical Services, Inc., has permit for $150,000 building.

DALLAS — Building—Walgreen Co., has permit for building, cost $100,000.

EL PASO—Warehouse—Gilliland and Co., has acquired site, and plans warehouse to cost $35,000.

FORT WORTH — Plant — American Cyanamid & Chemical Corp., completed negotiations for the peacetime operation of War Assets Corp.'s catalyst manufacturing plant; will install new process equipment.

FORT WORTH — Office & Warehouse—A. L. Smith and Roy Baldwin, Fort Worth; building, $12,000.

FORT WORTH — Plant — Milwaukee Bottling Co. let contract at $72,707 for bottling plant.

FORT WORTH — Warehouse — Lydick Roofing Co., has plans for warehouse, cost $30,000.

HARLINGEN—Business Building—Ferguson Motor Co. let contract for building, cost $50,000.

HOUSTON — Air Conditioning — Gulf Atlantic Warehouse Company, let contract for air conditioning.

HOUSTON—Warehouse, Etc. — Ennis Tag and Sales Books Co. and American Carbon Paper Co., let contract for warehouse and office building.

HOUSTON—Warehouse — Radoff Brothers, Inc., let contract for warehouse, to cost approximately $90,000.

HOUSTON — Improvements — City, J. M. Nagle, Acting City Manager, plans new terminal building, cost approximately $1,895,000.

HOUSTON — Plant — Lone Star Bag & Bagging Company, let contract for addition to plant, to cost approximately $160,000.

HOUSTON — Addition — Mosher Steel Co., started work on addition, to cost $30,000.

HOUSTON — Plant — Metal Goods Corp., St. Louis, plans $1,000,000 plant; site acquired.

HOUSTON — Laboratory Building—Laboratory building, Deer Park, cost approximately $160,000, planned by Shell Oil and Refining Co.

HOUSTON — Expansion—Folger & Co., has permit for extension to plant, cost $200,000.

HOUSTON—Warehouse — J. T. McCarthy, Jr., 3130 Navigation Blvd., let contract for office and warehouse, to cost $36,000.

HOUSTON — Warehouse — Adolphus Rice Milling Co., has plans for warehouse, cost approximately $100,000.

HOUSTON — Expansion — Grand Prize Brewery, has work under way for $300,000 expansion program.

HOUSTON—Building—The Commerce Company, has plans for 8-story garage building.

HOUSTON—Plant — Star Bottling Works, will soon complete plans for factory building.

HOUSTON—Airport—Nesmith Aircraft Co., will start work soon on $200,000 modernistic airport on Katy Highway.

HOUSTON—Store Building — General contract let at $208,400 for store building, owner; Finger & Rustay.

HOUSTON—Plant—Carnation Milk Co., A. T. McClintock, Mgr., received low bid at $471,814 for milk plant, ice cream plant, office and general remodeling.

HOUSTON — Plant Building—E. P. Korn Manufacturing Co., will erect plant to cost $12,000.

HOUSTON — Plant — Ben Krandle and Max Frosch, let contract for building.

HOUSTON — Office Building — D. S. Wallace Co., let contract for $80,770 for office building.

HOUSTON — Plant—General Electric Co., constructing plant, to cost $60,000.

HOUSTON—Store Building—A. E. & John Olson, will construct store building, to cost approximately $50,000.

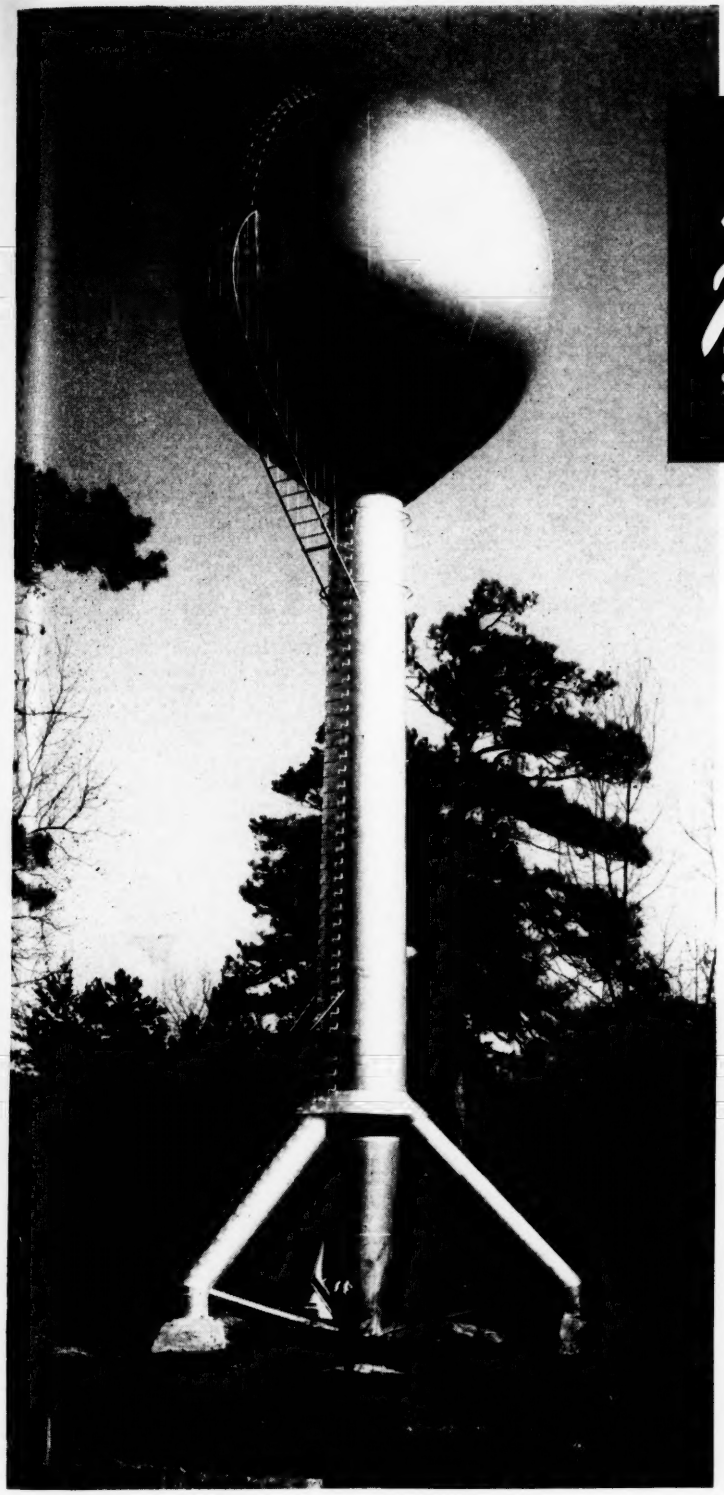
HOUSTON — Plant — Rayner Packing Co. has acquired site for packing plant.

HOUSTON — Warehouse — Adolphus Rice Milling Co. has plans for rice warehouse, to cost $100,000.

KERRVILLE — Warehouse—H. W. Little, Inc., let contract for building.

LA PORTE — Plant—Du Pont de Nemours and Co. has work underway on chemical manufacturing plant to produce livestock remedies and crop-saving chemicals, cost $2,500,000.

(Continued on page 65)



here's a *Modern Slant* on

ELEVATED WATER STORAGE

It's the Watersphere . . . the modern answer to streamlined elevated water storage. The 60,000-gal. Watersphere shown at the left provides gravity pressure for a portion of the water supply system at Gadsden, Alabama. This same structure might well be used to provide gravity water pressure at any of the South's modern manufacturing plants. The beauty and streamlined appearance of the Watersphere harmonizes architecturally with the most modern buildings.

In addition to its attractive, outward appearance, the Watersphere is highly functional in design. The single cylindrical column of the Watersphere provides an economical means of support for the spherical tank. The plain surfaces of the structure are easier to maintain and require less material than tanks of customary design with several columns.

If you are planning on installing elevated water storage to provide gravity pressure for an automatic sprinkler system or for general water service, write to our nearest office for quotations on Waterspheres. State capacity desired, height to bottom and location.

CHICAGO BRIDGE & IRON COMPANY

Atlanta 3 .....2145 Healey Building
Birmingham 1 .....1530 North Fiftieth Street
Houston 1 .....5614 Clinton Drive
Tulsa 3 .....1611 Hunt Building
New York 6 .....3313—165 Broadway Building
Cleveland 16 .....2216 Guildhall Building
Chicago 4 .....2106 McCormick Building
San Francisco 11 .....1240-22 Battery St. Building
Philadelphia 3 .....1619—1700 Walnut St. Building
Los Angeles 14 .....1417 Wm. Fox Building
Washington 4 .....703 Atlantic Building
Detroit 26 .....1510 Lafayette Building

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

News from Industry

Sales Personnel Changed

The establishment of a new district sales office in Indianapolis and changes involving its district sales offices in Los Angeles and San Francisco, and South Bend, Indiana, have been announced by the Jones and Laughlin Steel Corp., 311 Ross St., Pittsburgh, Pa. H. M. Knobloch has been appointed district sales manager in Indianapolis, and R. G. Scoggins has been appointed district sales manager in Los Angeles to succeed T. W. Bell who has been appointed special sales representative in Los Angeles.

W. S. Wainright has been appointed district sales manager in San Francisco and W. L. O'Connell has been named resident manager of sales in South Bend.

Aluminum Automobile Engine

An automobile engine of aluminum was introduced by Jack & Heintz at the exhibit "Aluminum Living" sponsored by the Aluminum Company of America and to be shown in cities throughout the United States following its premiere at Kresge-Newark, Newark, N. J. The unit displayed is equipped with transmission and clutch for automotive use in the rear end, mounting less than half the usual engine weight. Its transmission and differential are one piece. The engine fires horizontally instead of vertically. It is air cooled and no radiator is required. In factory tests the engine developed a peak horsepower of 95 miles per hour with ordinary non-premium fuel. Before being placed on exhibit the engine was run well over 1,000 hours at speeds equal to 75 miles per hour road speed, consuming only three-quarters of the gas and less oil than the average automobile engine.

Staff Changes Announced

N. A. Strand & Co., 5001 N. Wolcott Ave., Chicago 40, Ill., manufacturers of flexible shafts and machinery, announce that Jack O. Edgerton has been added to the firm's executive staff to replace Clyde W. Blakeslee, resigned. The company also announces that consideration is being given to improvement of manufacturing facilities and to advancement of the entire line of equipment.

Scot Firm Licensed By U. S. Steel

Carnegie-Illinois Steel Corp., United States Steel Corp. subsidiary, announces that Colvilles, Ltd., of Glasgow, Scotland, has been licensed to manufacture Cor-ten, well-known corrosion-resistant, high-strength, low-alloy steel developed by Carnegie-Illinois. Until the Fall of 1944, when Lukens Steel Co. and Republic Steel Corp. were licensed to manufacture it, Cor-ten was produced solely by subsidiaries of United States Steel Corp. More recently, Crucible Steel Co. of America has become a licensee.

B & O Expands Service

Roy B. White, president of the Baltimore and Ohio Railroad, has announced that his company has joined the Santa Fe in the establishment of transcontinental passenger service between Washington and Los Angeles with through bedroom-roomette sleeping car service daily between Washington and Chicago on its all-Pullman "Capital Limited" for connection with the Santa Fe's "Chief" operating between Chicago and Los Angeles. Mr. White also stated that he has been negotiating for additional sleeping car services on the B & O which would connect with trains of western lines operating between Chicago, St. Louis, and other points in the west and southwest.

Davenport Unit Delivered

To meet the demands of expanding operation, a 35-ton Diesel-electric locomotive, built by Davenport Locomotive Works, was recently delivered to the Pittsburgh Limestone Corp. The unit is powered by two Hercules engines, two generators and two motors. In announcing the delivery, the builders call attention to a trend toward Diesel-type motive power which they characterize as quiet and flexible and widely used during the war years. The firm which built this 35-ton unit is a division of Davenport Besler Corp., Davenport, Iowa.

Steel in the War

Pubished by United States Steel, "Steel in the War" assembles for the first time facts and figures which measure the importance to the national war effort of this basic metal. Enumerating the contributions to victory of the Virginia Bridge Company and the Tennessee Coal, Iron and Railroad Company, as well as those of all other United States Steel subsidiaries and the parent corporation, the generously illustrated book has been made available to thousands of libraries as an industrial reference volume.

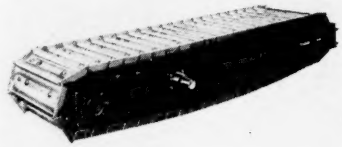
First plans to publish its war production story were made by United States Steel early in the war, when it became apparent that the steel industry was launched upon a production task unparalleled in history, on which might stand or fall the fate of our nation. Each succeeding month of home front production added new feats of industrial accomplishment and new all-time production peaks, until by VJ Day there had been established one of the most amazing records ever made by a single industry.

To back up the battlefront effort of the United States and its allies, and at the same time meet essential home front needs, the American steel industry increased its annual production 70 per cent over 1939, and produced the gigantic total of 467,000,000 tons of steel in five years, ending July 31, 1945. U. S. Steel's share of that amount was 161,000,000 tons, with the corporation's percentage of the total output remaining approximately the same as in pre-war years.

Chain Belt Conveyor

Chain Belt Co., of Milwaukee, announces production of a self-contained factory assembled heavy-duty apron conveyor unit. The heavy-duty roller supported apron feeder is furnished in several widths and with centers ranging from a minimum of 4' 7" to a maximum of 9' 1" varied by 18" increments.

This type of feeder is widely used under bins and hoppers for heavy lump material such as



Chain Belt Conveyor

ore, pit-run gravel and rock. At a normal speed of 10 feet per minute, handling 100# material, capacities of these standard units will run up to 80 tons per hour. Because the heavy steel chain belt rides directly on large diameter traction rollers, the design of the new heavy-duty feeder means long chain belt life, and low power consumption.

Branch Office Announced

Courts & Co., dealers in investment securities, with headquarters at 11 Marietta St., Atlanta, Ga., have announced that their South Carolina office is now located on the ground floor of the Peoples Bank Building, 18 Broad St., in Charleston. The office is under the comanagership of E. Prioleau Ravenel, Jr., and Robert F. McNab. Other associates of the staff are W. E. Martin, H. L. Matthews and Demal Cochran.

Heads Market Research

William F. Newton has been appointed manager of market research and development for the Columbia Chemical Division of the Pittsburgh Plate Glass Company, 632 Duquesne Way, Pittsburgh, Pa., according to an announcement by W. I. Galliher, executive sales manager for the division. Mr. Newton joined the Columbia Chemical Division's research staff during July, 1941. He was made division superintendent in charge of synthetic resins and related organic products two years later. Dr. Alphonse Pechukas is director of research for the glass company's Columbia Chemical Division.

New Craig Ridgway Officers

New president and treasurer of Craig Ridgway & Son Co., Coatesville, Pa. manufacturers of steam hydraulic machinery, is H. Dripp, who succeeds E. B. Ridgway recently resigned. Craig S. Ridgway is vice president and Dr. S. W. Ridgway, secretary.

Horton Floating Roof

The Chicago Bridge and Iron Co., Chicago, Ill., announces publication of a new 12-page booklet "The Horton Floating Roof" discussing the reduction of evaporation loss and the elimination of fire hazard in flat-bottom tanks storing volatile liquids and chemicals. Gauging methods employed with flat-bottom tanks equipped with the improved Horton Floating Roof are described and a diagram of a typical installation is shown. A copy of this booklet will be sent on request to the company.

Solvay Opens New Branch

Solvay Sales Corp., 40 Rector St., New York, N. Y., has announced the establishment of a new office at 847 M & M Building, Houston, Texas, which will cover the states of Texas, New Mexico and Arizona, and will be in charge of Col. S. O. Taylor. Col. Taylor is a veteran of both World War I and World War II having recently returned to Solvay after having served three years as Executive Officer at Patterson Field, Dayton, Ohio, as a member of the Air Corps. Prior to the latest entry in the Army, Col. Taylor, was employed for a period of eleven years with Solvay Sales, St. Louis Branch. Solvay Sales Corporation markets alkalies, calcium chloride and other chemical products manufactured by The Solvay Process Company.

Bryant Industrial Flomixers

Production of a newly designed constant-ratio mixer for low pressure air and gas is announced by D. A. Campbell, manager of the Industrial Division of Bryant Heater Company, Cleveland.

First of a series of new gas combustion elements for use in industrial process equipment, the Flomixer utilizes the energy of a stream of air at pressures up to 3 pounds to entrain a combustible gas and to deliver the mixture at unusually high pressure to the burners it supplies.

Available in pipe sizes from ¾" to 4", the Flomixer's efficiency is due to the improved design of internal contours and proportions, with resultant reduction of pressure losses within the unit. An air supply of one pound pressure will produce a mixture pressure of 13" water column with natural gas, 11½" with manufactured gas.

New Hendrick Agents

Hendrick Manufacturing Co., Carbondale, Pa., producer of perforated metals and open steel flooring, has appointed three new sales representatives, it is announced by Trowbridge A. Warner, sales manager.

Henry H. Rugg, 703 Ashland Avenue, St. Paul, will cover Minnesota, the Dakotas, and northewestern Wisconsin; Charles H. Dishman, Porter Building, Kansas City, Mo., will handle Kansas, Oklahoma and western Missouri; and Crandall-Ricker Sales Corp., Paul Brown Building, St. Louis, for eastern Missouri, Arkansas, western Tennessee, western Kentucky, and a portion of south-western Illinois.

Borg-Warner Unit Formed

Plans have been completed for a new Borg-Warner unit to be known as the Norge-Heat division, with Howard E. Blood as president. Mr. Blood is also head of the corporation's Norge and Detroit Gear divisions and a director.

Initial production will include several improved models of automatic, thermostatically-controlled oil-fired furnaces, utility room and under floor heating units, oil-fired water heaters and air filter units.

Heads Alabama Plant

Joseph C. Herbert, with B. F. Goodrich Co. since 1927, has been named factory manager of the company's recently acquired tire plant in Tuscaloosa, Alabama, it is announced by J. E. Gulick, general manager of the tire manufacturing division. Final construction work on the new tire manufacturing unit is underway.

The new Tuscaloosa plant manager has been secretary of Pacific B. F. Goodrich Co., assistant counsel of the company, and during the war period served as assistant secretary and later general manager of Lone Star Ordnance Co., Texarkana, Texas, a bomb and shell loading plant, one of the largest of its kind in the world, built and operated by B. F. Goodrich during the war emergency.

Mr. Herbert is a graduate of Western Reserve University, Cleveland, Ohio.

Long Distance is catching up too

More Long Distance calls go through as you hold the wire. Long delays are fewer.

The service is getting better, but we've still got a good way to go before we get back to pre-war service.

Once we catch up with that, we'll keep right on going and try to make the record even better.

BELL TELEPHONE SYSTEM

TRADE LITERATURE

SPEED REDUCERS ILLUSTRATED

A new sixteen page bulletin entitled "Earle Speed Reducers as Applied to Operating Machinery," containing information on selecting the proper reducing unit for various needs. Fully illustrated, showing installations in movable bridges, ferry lifts, gates, dams and other types of machinery, it is issued by Earle Gear and Machine Co., 4707 Stenton Avenue, Philadelphia 44, Pa.

NEW GLASS BOOKLET

Ways in which glass can be used to make the home attractive are pictured in new literature prepared by the Pittsburgh Plate Glass Company. Developments in home glazing such as the double-glazed insulating window, known as Twindow, and full walls of plate glass are shown in this 28-page booklet. Examples of modern picture windows and corner windows that are bringing about a marked change in home construction are included. Full color illustrations depict mirrors, glass block, and structural Carrara glass. Other pictures show how such practical products as plate glass closet shelves, kitchen door mirrors, and glass furniture tops aid safety in the home. Copies of the new booklet may be had by writing Department PPG-110 Pittsburgh Plate Glass Company, 632 Duquesne Way, Pittsburgh 22, Pa.

DUST CONTROL ILLUSTRATED

An illustrated booklet has been issued by American Air Filter Co. Inc., 1st and Central Ave., Louisville 8, Ky., describing Roto-Clone dust control systems of which the firm is the manufacturer. The booklet contains installation photographs, tables, charts and a discussion of a simplified procedure for designing a Roto-Clone exhaust system. Also included are explanations of pressure relationships in exhaust systems, and methods of measurement. The booklet is offered by the company free of charge to those interested in a system of enclosures or hoods at the source of dust, piping to convey the dust-laden air, an exhauster to draw the dust from the source and a separator to remove the dust from the carrier air.

NEW GENERATOR BULLETIN

A new line of portable gasoline-engine-driven generators now being produced by the Homelite Corporation, Port Chester, New York, is described in their new Bulletin L-406. It pictorially describes the standard line of generators which Homelite has developed . . . all of them are **new** models. Aluminum alloys in all major castings plus Homelite's proven two-cycle engine design make possible the high horse power to weight ratio. Photographs illustrate the portable power plant, power for floodlighting emergencies or night work, power to operate electric drills and saws, power for public address systems, radios, standby service or battery charging. Generator sizes range from 500 watt to 5000 watt, ac or dc, 6 to 230 volt, 50 to 800 cycle. The weights of the complete units vary from 48 pounds for the smallest size to 142 pounds for the 5000 watt generator.

Textile Mill Officials Re-elected

All officers of Riverside & Dan River Cotton Mills, Inc. were re-elected by the Board of Directors following the annual stockholders' meeting here today, at which members of the Board also were renamed.

The officers include John M. Miller, Jr., of Richmond, Va., chairman; George S. Harris, president and treasurer; Basil D. Browder, Russell B. Newton and A. B. Emmert, vice-presidents; J. M. Hughlett of New York, vice-president and general sales manager; Theodore A. Bassin, comptroller; W. W. Ayres, secretary; and D. A. Overbey, Jr., and Lesley H. Browder, assistant treasurers.

Courts Staff Additions

Courts & Co., Investment Securities, Atlanta 1, Ga., announces that Joseph J. Maddox, formerly Captain A.U.S. has become associated with the company's Atlanta office and that H. Ross Hefner formerly with the A.U.S. has become associated with the Gadsden office. Both Mr. Maddox and Mr. Hefner served in the South Pacific.

Port Wentworth Paper Mill to Cost $9,000,000

George E. Dyke, chairman of the board and president of Robert Gair Co., Inc., of New York, announces that the Southern Paper Board Corp., a subsidiary of the Gair concern in which Fort Wayne Corrugated Paper Co. has a substantial interest, has exercised an option to purchase approximately 180 acres of land at Port Wentworth, on the Savannah River, near Savannah, Ga., on which it will erect a sulphate pulp and paperboard mill as soon as possible.

Gair and Fort Wayne interests have invested $12,000,000 in the Southern Paper Board Corp., of which approximately $9,000,000 is to be spent for the mill and its equipment. Daily capacity of the plant will be 450 tons, or about 135,000 tons of container board a year, all of which will be converted into shipping containers at the fabricating plants of the two companies.

The Southern Paper Board Corp. has organized a wholly-owned subsidiary, the Gair Woodlands Corp., with a paid-in capital of $2,000,000. This concern will carry on all the wood and land operations incident to the logging operations. T. W. Earle, who has been associated with the Gair organization for the past year acquiring woodlands, is president of the Gair Woodlands Corp.

Big Paper Plant Proposed in Alabama

Before the end of the war, the people of Alabama began to ask what would happen to the economy of Talladega County when the huge powder plant of the Alabama Ordnance Works at Childersburg became surplus to the Army.

Late in March, the plant still was not on the surplus list, but they had their answer when incorporation papers were filed for a newsprint plant to occupy part of the facility. No fly-by-night corporation, the new concern has the names of top Alabama industrialists on its board of directors, and the backing of the powerful Southern Newspaper Publishers Association newsprint committee.

Serving on the board of directors with Chairman Donald Comer, president of Avondale Mills, are Alabama Power Company president, Thomas W. Martin, *Birmingham News-Age-Herald* publisher, Clarence Hanson, Jr., Birmingham attorney, Walter Bouldin, and Sylacauga's First National Bank president, J. W. Brown, who will also be president of the corporation.

Mr. Comer revealed that the new manufacturing plant, named the Coosa River Newsprint Company, would spend in excess of $10,000,000 in converting the facility and installing paper making machinery.

It was revealed that less than ten per cent of the South's newsprint came from the one Southern newsprint plant at Lufkin, Tex., and that the Southern publishers were solidly behind the new plant. Even coastal newspapers, who because of low water rates would still continue to get their newsprint from Canadian mills, agreed to subscribe to the stock of the new company in order to ease the buying in that market.

The Coosa River Newspaper Company is the outgrowth of an organization known as the Talladega County War Plants Conversion Committee which was set up through the efforts of the Alabama State Chamber of Commerce in 1944 when it seemed that the end of the war might not be far off. This committee was composed of citizens of Talladega, Sylacauga and Childersburg, and members of the State Chamber of Commerce.

With the objective of finding peacetime uses of the war plants in the Talladega County area, the committee raised funds by local subscription and employed the firm of J. E. Sirrine & Co., of Greenville, S. C., also Milton Fies, consulting engineer of Birmingham and the engineering firm of Polk, Powell and Hendon of Birmingham.

Mr. Comer stated that the Coosa River Newsprint Company was the result of a community doing something for itself. "Our efforts are still exploratory," he said, "but we are hopeful that the objectives of the committee can be worked out, and that through this new mill and through better forestry practices, the farmers of this area will benefit through steadier and higher incomes.

Industrial Finance In The South

Ever since April in 1865, First and Merchants has cooperated actively with Southern industry. Today hundreds of Southern manufacturers are among its customers, and through its extensive connections with other banks serves many other manufacturers. First and Merchants is a manufacturer's bank because it knows and understands Southern industrial finance through long first hand experience.

FIRST AND MERCHANTS
National Bank of Richmond

John M. Miller, Jr., Chairman of the Board — H. Hiter Harris, President

CAPITAL AND SURPLUS SIX MILLION DOLLARS

Member Federal Deposit Insurance Corporation

Courts & Co.

INVESTMENT BANKERS

Members New York Stock Exchange and Other Leading Exchanges

UNDERWRITERS AND DISTRIBUTORS OF INVESTMENT SECURITIES

BROKERS OF BONDS, STOCKS, COMMODITIES

Private Wires • ***Home Office:* Atlanta** • **Phone LD-159**

A phone call may save you the difference

HOME owners! Fill in the sign above with today's value of your own home. Then check the amount of your present insurance against that figure.

This is a serious appeal from the fire insurance business to act in your own interest—to protect the greatly increased value of your property.

The value of your home might well be from 30% to 50% more today than in 1939. Yesterday's insurance cannot cover today's higher property values.

The increase in value of your furniture, rugs, clothing, jewelry may represent additional thousands in assets you stand to lose if fire destroys your home and belongings.

Fire losses every day are awakening home owners to these tremendous increases in property values—too late! We who live and work in the fire insurance business see this daily evidence piling up—evidence of the tragic and needless losses home owners are suffering through inadequate insurance protection.

In this critical nation-wide situation—we urge you to get in touch with your local UNITED STATES FIRE Agent. A telephone call to him today may save you thousands.

Standard protection

UNITED STATES FIRE
INSURANCE COMPANY
110 WILLIAM STREET, NEW YORK, N. Y.
ORGANIZED 1824

LISTEN THURSDAY EVENINGS TO EARL GODWIN OVER AMERICAN BROADCASTING NETWORK

SOUTHERN DEPARTMENT HINES BROTHERS, *Managers* SPRING ST., ATLANTA, GEORGIA

Diesel Locomotives

(*Continued from page 56*)

comotives annually with operations being carried on simultaneously with shipbuilding and with the same personnel.

This first Diesel is not a haphazard contrivance. Robert H. Macy, chief of Ingalls' locomotive division, reveals that the company first made a survey of 22 southern railroads to determine precisely what they needed in the way of a locomotive. Then the company set about to build one that fit the needs. Reaction from the railroads, Mr. Macy says, has been highly favorable, and thousands viewed the sleek Diesel on its maiden demonstration run, from Pascagoula to Birmingham to Atlanta and home again.

The company will by no means discontinue building ships (it has on hand now a blacklog for more than $100,000,000 worth), but its locomotive-building division will supplement that and provide employment for increased numbers of people. In fact, Ingalls' employment at Pascagoula today stands at about 7,000, as compared with 10,000 during the peak wartime period—a record such as few shipyards can boast.

Ingalls is producing "all-purpose" locomotives which can be used for heavy switching or transfer service or for freight and passenger road service, either singly or in multiples of two, three or four units. This adaptability is made possible, Mr. Macy explains, by a turret type of cab construction which enables complete visibility. There is a pilot at either end, and the locomotive can travel in either direction. This makes it suitable for switching and certain types of road service and suburban service where it is not always feasible to turn a locomotive around.

The engine itself is of the eight-cylinder in-line type. The entire roof over the engine can be lifted off to expedite repairs or removal of the engine itself. The overall length of the body is 56½ feet and the width is 10 feet. Loaded, the locomotive weighs 240,000 pounds.

A water tank has been built into the locomotive and a vestibule in the rear provides a sheltered location for switching crews while operating in transfer service to eliminate the

need of riding in the cab. All of the locomotive's electrical equipment was manufactured by the Westinghouse Electric Corporation.

The diesel engine was manufactured by the National Supply Company's Superior Engine Division, and the radiators and fans by the American Blower Corporation. Nearly 40 other manufacturing concerns manufactured other equipment used in producing the locomotive. A few of these were Timken Roller Bearing Company, American Steel Foundries, Pittsburgh Plate Glass Company, American Brake Shoe Company, Minneapolis-Honeywell Regulator Company, Westinghouse Air Brake Company and Service Foundry, among others.

Industrial Expansions

(*Continued from page* 58)

LUBBOCK—Terminal — Lubbock Bus Co., let contract at $53,383 for terminal and maintenance building.

LUBBOCK — Warehouse — Lubbock Bag Co. let contract for factory and warehouse building.

LUFKIN — Expansion — Southland Paper Mills, doubling size and capacity of present facilities, estimated cost $4,500,000.

SAN ANTONIO — Factory—Alamo Pottery Co. is building addition to ceramic factory.

SAN ANTONIO—Generating Plant—Public Service Board, plans enlarging Mission Road electric generating plant at cost of $2,000,000, to be completed by mid-1948.

SAN ANTONIO — Building—Colonial Cake Company, let contract for two buildings.

SAN ANTONIO — Factory — Dr. Frederic Oppenheimer, received low bid for mattress factory building.

SAN ANTONIO — Building — Pabst Engraving Co., let contract at $34,995 for building.

SAN MARCOS — Plant — Texas Ceramic Products Corp., will erect plant and office building.

SEQUIN — Laundry—Charles Dwyer let contract for lanudry building.

SINTON — Grain Elevatar—Construction planned of grain elevator with storage capacity of 16 carloads of grain or approximately 1,000,000 pounds, for Sinton Grain & Elevator Co.

SOUTH TEXAS—Plant—Sun Oil Co., planning natural gasoline plant and possibly gas storage compressor plant in Sun and North Sun Field in South Texas, involving an expenditure of about $1,000,000; as part of a $4,000,000 program for conservation of natural gas; company is joining other operators in Seeligson Field, in constructing gas cycling and natural gasoline plant.

VALLEY MILLS — Locker Plant—Valley Mills Refrigeration Cooperative has $35,000 funds for construction of refrigeration locker plant.

WICHITA FALLS — Building — Wichita Industrial Foundation, Inc., plans factory building, cost $40,000.

VIRGINIA

RICHMOND — Factory, Etc. — Century Sprinkler Corp., let contract for factory and office building.

RICHMOND—Warehouse—Atlantic Varnish & Paint Co., received bids for warehouse.

RICHMOND — Addition—Contract let for building addition to Reeves Avenue Power Station in Norfolk; Virginia Electric and Power Co., owner.

TIDEWATER — Plant — Portsmouth Frozen Foods, Inc., started work on locker plant; capital of $100,000.

WEST VIRGINIA

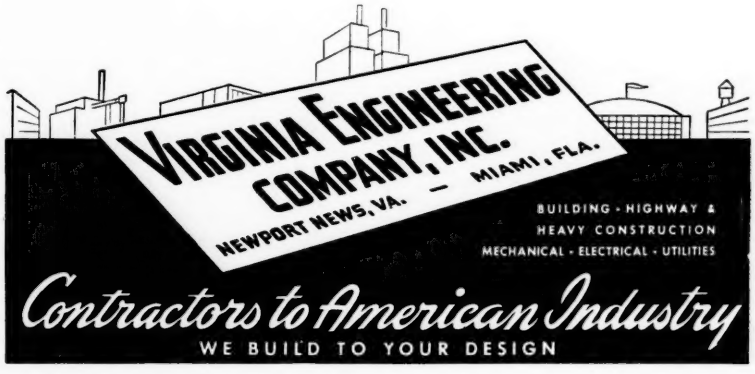
BLUEFIELD — Terminal — Atlantic Greyhound Corp., let contract for bus terminal, estimated cost $125,000.

The LONGEST word in the dictionary!

. . . is the one above . . . 34 letters . . . but it does not impress us nearly as much as the strongest word . . . REPUTATION for which Mr. Webster gives us these synonyms: *fame, renown, glory, consideration, distinction, honor.* We would like to add our favorites: *integrity, competence, quality.* Study these solid words. We offer them to you as tangible assets. For more than thirty years the Virginia Engineering Company has completed thousands of large contracts with complete satisfaction. And that, sir, is *reputation.*

Challenge in a Stamp

May we tell you the entire story of Virginia Engineering Company? Write today.


VIRGINIA ENGINEERING COMPANY, INC.
NEWPORT NEWS, VA. — MIAMI, FLA.
BUILDING - HIGHWAY & HEAVY CONSTRUCTION
MECHANICAL - ELECTRICAL - UTILITIES
Contractors to American Industry
WE BUILD TO YOUR DESIGN

INDUSTRIAL FACTS ABOUT TENNESSEE

TVA

All of the basic purposes of TVA have been accomplished—"The unified development of the Tennessee River system primarily, flood control, navigation, water-power utilization and national defense."

Less known perhaps, but certainly as important to peacetime industry, are the economic advantages created by TVA in the Tennessee Valley. Power lines have brought to the area a new way of life. Farms have become mechanized, releasing native labor for industry. Motors have taken the place of man power. Modern appliances have made living more enjoyable. Workers have more time for self-improvement and recreation—adding to their contentment.

Low-cost TVA power has opened up hundreds of smaller communities in Tennessee that are ideal locations for industries. These locations permit the decentralization so desirable in peaceful plant operation. These communities have an adequate supply of workers for small industries. These workers, for the most part, live on farms or own their homes nearby. They are citizens of and have a vital interest in the communities where they work. They are noticeably free from the unrest usually apparent in congested industrial areas.

Leaders in these Tennessee communities are awake to the importance of industrial payrolls and give full cooperation to continuous plant operation.

Detailed information on TVA power, decentralization, and labor, as well as other industrial advantages, is given in a big, 210-page general survey: "Industrial Resources of Tennessee," that will be mailed to executives and industrial engineers upon request. It is filled with facts that every employer should have when plant expansion or location is being considered. Dictate your request today—on your business stationery, please.

DEPARTMENT OF CONSERVATION
Information Division
926 State Office Bldg. Nashville 3, Tenn.

TENNESSEE
First Public Power State

Train Radio Tested

(*Continued from page* 47)

square inches—the unit is provided with a remote control switch, a pilot light and an Off-On switch. When the knob is in the On position, the warning signal is broadcast to all trains and stations tuned to that particular frequency.

During the Atlanta-Birmingham test, mobile equipment was installed on two locomotives and a business car. The "end-to-end" tests were made between the car and the locomotive pulling it. The "train-to-train" tests and demonstration of the "Slowtone" warning device were made by having a radio equipped locomotive meet the regularly scheduled train between Rockmart and Atlanta, a distance of 43.4 miles. Fixed station installations were at Howells, 3.2 miles from Atlanta's terminal station, at Dallas, 30.6 miles west of Howells, and at Rockmart.

End-to-end tests were conducted all the way through to Birmingham. The Bendix portable communications unit, otherwise known as the "walkie-talkie" is used for testing communication from work crew to train or dispatcher. Tests of communication from a rotating derrick were also made at Howells.

Albert Ramond & Associates, Inc.
Serving American Industry Since 1916
INDUSTRIAL ENGINEERS
Cost Reduction • Improved Wages
Production Management
Chrysler Bldg., New York 17 • Tribune Tower, Chicago 11
Russ Bldg., San Francisco 4 • 200 Bay Street, Toronto 1

Rudolph Shutting ARTIST
Specializing in REALISTIC, HAND-DRAWN PICTURES OF INDUSTRIAL PLANTS
CHATTANOOGA, TENNESSEE
POST OFFICE BOX 1186

PERSONNEL PROBLEMS ?
WRITE TO
Job Evaluation
Aptitude Tests
Morale Surveys
Policies, etc.
Benge Associates
HU-MANAGEMENT ENGINEERS
20 No. Wacker Drive, Chicago 6, Ill.

Georgia Mine Studied

A study of the Nulsen barite mine, near Cartersville, Bartow County, Ga., has just been completed by T. L. Kesler and I. G. Sohn of the Geological Survey, and a geologic and topographic map and brief report have been released, according to an announcement by Survey Director William E. Wrather to Secretary of the Interior Julius A. Krug. The map and report have been placed on open file in the Mary Mumford Memorial Library in Cartersville, Ga., at the offices of the Geological Survey in Washington, D. C., and in the office of the Director, Department of Mines, Mining and Geology, 425 State Capitol, Atlanta, Ga., where it may be consulted by any interested persons.

Oklahoma City Industry

(*Continued from page* 38)

of Oklahoma City has increased since V-J Day. Population just before the end of the war was estimated at 267,000, an increase of 41,000 above the 1940 census. Today, on the basis of housing conditions and public utility installations, the population figure is set at 275,000.

Under the pressure of this growth, 6,500 new family dwelling units definitely are planned for construction, involving several extensive new areas of development. More than 300 now are under construction. Material shortages constitute the only holdup.

Commercial and industrial buildings of all kinds, large and small are fully occupied and there is a heavy demand for additional space. A considerable number of smaller buildings have been erected in the last few months, but lack of materials stands

(*Continued on page* 78)

In Your Post War Plans

COME SOUTH

Where Labor and Capital Work Together

Move down south in the heart of the textile industry where workers are native born, intelligent and dependable.

They share with business leaders and town officials a cooperative attitude toward new business.

Your plant will be welcome in Dallas, North Carolina where there is ample room for growth and expansion of your manufacturing plant. Good highways and railroads, warm climate, low taxes, cheap electric power rates from town-owned utilities. Low gas rates. Plenty of water.

We welcome you to Dallas, in southern North Carolina, twenty miles west of Charlotte, three miles north of Gastonia. Plenty of labor available who stand ready to work for you and with you for the common good of all. Bring your plant to Dallas, North Carolina, a town of friendly people.

For specific information wire or write:

MAYOR A. J. MAXWELL **DALLAS, NORTH CAROLINA**

EPPINGER AND RUSSELL CO.

Wood Preservers Since 1878

All Kinds of Structural Timbers and Lumber Pressure Treated with Creosote Oil or

DU PONT CZC

80 EIGHTH AVE., NEW YORK, N. Y.

POLES • CROSS ARMS • PILING • TIES
POSTS, BRIDGE AND DOCK TIMBERS

***Treating Plants*—Jacksonville, Fla., Norfolk, Va., Long Island City, N.Y.**

At your request we will visit you at your place of business to discuss your banking requirements.

RESOURCES OVER 200 MILLION DOLLARS

UNION TRUST

COMPANY OF MARYLAND

Main Office: Baltimore & St. Paul Sts., Baltimore 3, Md.

Member Federal Deposit Insurance Corporation—Federal Reserve System

Confidential

DESIGN ENGINEERING . . . for INDUSTRY and BUSINESS

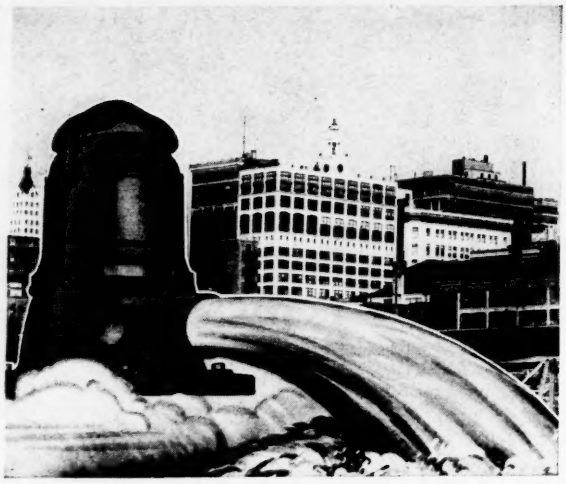
ESTABLISHED over 25 years as a *confidential* design service for products, special automatic machines, production tools and methods. Clientele restricted to one firm in a specified field. Now serving many leading firms throughout the country.

M E Co D

MACHINE & TOOL DESIGNING COMPANY

1011 CHESTNUT ST., PHILA. 7, PA.

HENRY A. SIMPSON • FRED C. GLADECK
CONSULTING ENGINEERS
Southern Representative—Edward De Luca
1716 Landon Avenue, Jacksonville, Fla.



Thousands of Cities

HAVE LAYNE WELL WATER SYSTEMS

Quality that gives supreme satisfaction was the ultimate deciding factor with thousands of cities that now own Layne Well Water Systems. These cities—and they range from the Nation's largest to those of only a few inhabitants—were careful to place known performance before idle claims. In buying Layne Well Water Systems they obtained the very best that skill and experience could create.

Layne Well Water Systems have long been first choice by big and little cities everywhere—first choice for highest efficiency, lowest cost operation and unparalleled long life. In a like manner, thousands of industries;—processing plants, factories, railroads, oil refineries, ice plants and irrigation projects also buy and use Layne Well Water Systems.

Each Layne Well Water System is built to fulfill a specific need—and built to produce the utmost amount of water under any and all conditions. For illustrated literature, address Layne & Bowler, Inc., General Offices, Memphis 8, Tenn.

HIGHEST EFFICIENCY

Layne Vertical Turbine Pumps are available in sizes to produce from 40 to 16,000 gallons of water per minute. High efficiency saves on power cost.

AFFILIATED COMPANIES: Layne-Arkansas Co., Stuttgart, Ark. * Layne-Atlantic Co., Norfolk, Va. * Layne-Central Co., Memphis, Tenn. * Layne-Northern Co., Mishawaka, Ind. * Layne-Louisiana Co., Lake Charles, La. * Louisiana Well Co., Monroe, La. * Layne-New York Co., New York City * Layne-Northwest Co., Milwaukee, Wis. * Layne-Ohio Co., Columbus, Ohio * Layne-Texas Co., Houston, Texas * Layne-Western Co., Kansas City, Mo. * Layne-Western Co. of Minnesota, Minneapolis, Minn. * International Water Supply Ltd., London, Ontario, Canada * Layne-Hispano Americana, S. A., Mexico, D. F.

LAYNE

WELL WATER SYSTEMS
VERTICAL TURBINE PUMPS

(Continued from page 14)

Here is just one more proof that a business can be run most efficiently from its own front office.

During the war, more than 50 foreign government purchasing missions appeared in Washington. Nearly all of them are still there, despite pressure to dislodge them. Some of this pressure, although unofficial, has come from the government. It is encouraging to note that someone in Washington believes in the fundamentally sound practice of having purchasers buy their goods from the people who make them, rather than through the government. Let's hope the trend continues.

Who are the capitalists of this country? To say that they are the financiers on Wall Street is on a par with saying that Byron Nelson, Ben Hogan, et. al., are the golfers of this country. Just as the actual golfers are the countless men and women who dot our thousands of courses every day, so are the capitalists the 46 million savings bank depositors, the 71 million life insurance policy holders, the approximately 15 million securities investors. Every property holder, investor, and saver has a stake in the economy of our nation which, in terms of his own security and welfare, is as great as that of the richest man alive.

When the government's cheap money policy shrinks interest rates, which have been decreased by nearly two-thirds in the last fifteen years, it is these capitalists—the large majority of our people—who get it in the neck. Persons and institutions of fixed income must drastically curtail their standard of living or their activities, or they must bite into the principal of their investments. Whichever is done, the outcome is painfully obvious. The American capitalist seems doomed for extinction.

"AFL unions throughout the nation have sought and won, through honest, fair collective bargaining, increases running as high as 30 per cent.

"CIO unions have refused like offers. Why? Because they are, in some instances, far more interested in promoting political philosophies than in real trade unionism. They are today, by promoting social and industrial unrest, endangering all of organized labor's gains in the past ten years. They are proving today that they are willing to sacrifice economic gains and working conditions in the interest of promoting political and economic philosophies. . . .

"The AFL is not going to jeopardize 60 years of gains in an attempt to settle the fight between China's Nationalists and Communists. The interests of the American worker are far more important to the AFL than removing the fascist dictatorship of Franco. The AFL is not going to subject the American worker to virtual slavery and anti-labor legislation because the Communists in Indonesia cannot overthrow British imperialism."

Southern California Teamster—Feb. 13, 1946.

The National Opinion Research Center, in a report entitled *The Public Looks At World Organization,*

(Continued on page 76)

PORTRAIT OF AN EXPANDING BUSINESS

Famous for Quality CONSTRUCTION

If you need a new home for your business or to increase the floor space in your present location, consider the use of Allied Steel Buildings. We will completely engineer your special building from the analysis of your needs to the placing of the last piece of steel. Allied Steel Buildings are custom built and designed to meet your individual requirements.

Allied Steel Buildings provide low initial cost, low maintenance and are quickly dismantled, (should the need arise) moved and re-erected with nearly 100% salvage. Allied Steel Buildings can easily be lengthened or shortened; are weather tight and fire resistant. Installations in nearly every state attest their popularity.

Write for Our Catalog

ALLIED STEEL PRODUCTS CORP.

1407 NO. PEORIA

TULSA, OKLAHOMA

ALLIED STEEL

FACTS at your finger tips!

Send for this free Industrial Catalog now. It will help you solve your building and maintenance problems. You need it in your file—it's yours for the asking.

Valuable Information on:

- Asphalt Roofing and Siding Materials
- Built-up Roofings and Waterproofings
- Corrugated Asbestos Sheets—for roofs and sidewalls
- Asbestos-Cement Board
- Asbestos-Cement Shingles and Sidings
- Insulation, Pipe Coverings, etc.
- Coal Tar Products
- Waterproof Wrapping Papers
- Oil and Gas Pipe Line Materials
- Rapid Asphalt Paint and Insulating Tape
- Roof Coatings and Plastic-Cements

The RUBEROID Co.

BALTIMORE 24, MD. ● MOBILE 8, ALA.

ASPHALT AND ASBESTOS BUILDING MATERIALS
INSULATION AND INDUSTRIAL SPECIALTIES

Check.. and DOUBLE CHECK

It's a fact that you and the rest of America's homeowners and business men are doing everything possible to remodel, rebuild and "fix-up" generally in order to relieve the housing and business space shortage.

You need...and will BUY materials of all sorts!

If you haven't already, look over your supplies on hand. Check your sheet metal, paint, insulation material, building and heating supplies and other material needs.

You'll buy from the dealer or contractor who can supply you!

If you don't find what you want, check directly with Lyon, Conklin. If we can't deliver to your dealer, it's probably not available ANYWHERE.

Lyon, Conklin & Co. Inc.

Established 1860

Baltimore 30, Md. Tel. SOuth 2000

Washington 4, D. C. Tel. NAtional 0890

Chattanooga Research Institute

(*Continued from page* 53)

ence includes important research service with Goodyear Tire and Rubber Company, Atlas Mineral Products Company of Pennsylvania and Monsanto Chemical Company. His experience covers a wide range in the development of processes for the manufacture of plastics and synthetics. He has secured a number of patents and has published many scientific articles of recognized importance. His associates likewise are scientists of wide experience in the investigation of industrial projects.

In addition to the equipment and personnel of the Institute itself, the laboratories of the University will be accessible for types of research requiring their facilities, and members of the faculty will be available for consultation. Coordinating work by advanced students of the University will afford additional aid.

Under Dr. Seymour's direction, the Institute is expected to get into the full swing of its established purposes swiftly. These are embraced in a four-fold program: the training of scientists and skilled workers; research for industry; fundamental studies in pure and applied science; and the maintenance of an up-to-date science library with reference service.

Considerable stress will be placed on the first objective which is held by the sponsors to be one of the most valuable parts of the program. It also is believed that the comprehensive type of library being contemplated will prove of inestimable value in ascertaining basic facts related to projected new Southern products and processes. For industry itself, the second and third objectives hold prospects of immediate and profitable benefits.

Under the program, any individual, industry or association, regardless of size or location, may submit research projects to the Institute. If accepted, the program of investigation will be outlined by the sponsor or the director. Frequent consultations will be held between the two, and monthly reports will be submitted by the Institute.

In instances where several indus-

(*Continued on page* 82)

Little Shop with Big Stuff

(*Continued from page* 43)

Coal, Iron & Railroad Company. Some of the large orders to be built this Spring are the 1,000 hopper car order for the Louisville & Nashville and the 1,000 automobile car order for the Southern Railway. Within another month or so production should pass the 900 cars per month rate, and later on go to nearly the 1,400 rate thus further proving the ability of our Southern plant to turn out big stuff in a hurry. And don't you ever think that the railroads of the nation don't want their cars in a hurry. They are operating with old equipment that has seen many trips to the shops. Some of the freight cars now on the roads have been practically rebuilt.

The total of the nation's freight cars is 1,771,394. Naturally the pressure of war years had much to do with the breaking down and the wearing out of rolling stock all over the country. The gondola car that carried strip steel from the mills across the country to a Seattle shipyard was called upon to tote a load of machinery up into Canada on its next trip. Following that, the Canadian city which received the machinery may have had a cargo of telephone poles headed for the Atlantic seaboard. Racing across the country with few stops for maintenance, every available piece of rolling stock was given harder usage than it had before seen. Shoppings were deferred, and cars limped along as best they could with little hope of being retired and replaced with new cars.

Need of the country for serviceable freight cars was so great that the War Production Board's freeze order of April, 1942 soon had a number of exceptions issued. Special lots of cars deemed essential to the war effort were given permits for building, and almost constantly the Bessemer plant had on its tracks a lot or two of these cars.

At first, while steel was critically short, a great deal of wood was used in the cars' construction. Hopper cars were built with wood planking for sides and ends. These were called composite cars because they used part wood and part steel. For some time no box cars were allowed to be built, production being confined to open-top cars such as gondolas, hoppers and flat cars. With the limitations in building that were imposed by priorities for various types of materials and sub-assemblies, the production line of almost every car shop in the country was erratic.

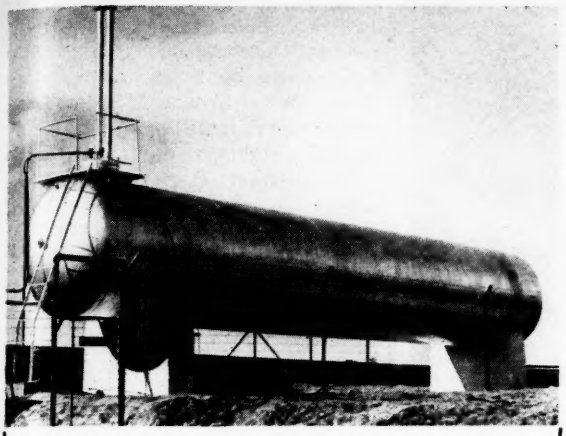
Nevertheless at the Bessemer plant, domestic freight cars continued almost incessantly to roll out of the shop doors on one track while thousands of military freight cars packed for overseas shipment were assembled on another track. It was the constant pounding, the never-ending drive, the continuous energy of every man Jack in the shops that has made the plant's freight car production a matter of pride in car building circles.

Being in the South, Bessemer plant starts earlier in the Spring and continues later in the Fall with outdoor activity. Doors are opened and warm air blows through the shop at the first sign of Spring. Many operations can be carried on outdoors with the generally pleasant Southern temperatures prevailing for a long stretch of months. Of course it gets hot in the Summer time, but no hotter than it does in the North where temperatures of 100 to 110 degrees also are common. In fact, the length of the season in the Birmingham industrial district permits home gardeners to raise at least two crops of vegetables during the growing season. The ground and soil do double duty when encouraged by reasonable temperatures.

Perhaps it is the climate, maybe it is the leadership, or perchance it is the fraternal spirit, or whatever the cause, Pullman-Standard's southernmost plant can be depended on for emergency production when the orders and the materials are at hand.

Capacity of the Bessemer plant is 54 cars a day on the two production tracks. This rate is not at all theoretical, having been actually accomplished, with minor interruptions, for a period beginning February 3, 1942, until the War Production Board's freeze order of April, 1942. The rate is calculated on a "basic" freight car, which for all practical purposes is the equivalent of a 50-ton box car. Actually a sustained

(*Continued on page* 72)



15,000 *Gal. Propane Capacity Tank* 8′ 0-1/16″ *I.D.* × 50′ 5-¼″ *Long*

Lancaster

Lancaster fabricated steel plate products are widely known for quality design, fine workmanship and reasonable cost. We can furnish: pressure vessels, elevated tanks, process tanks, autoclaves, standpipes, retorts, extractors, sprinkler tanks, stacks, breechings, bunkers, large O.D. piping, ships, barges, dredges, dredge pipe, etc.

Consult Lancaster's experienced engineers for your fabricated steel plate needs. Complete designs and estimates will be furnished promptly. Write, phone or wire today.

LANCASTER IRON WORKS, INC.
LANCASTER, PENNSYLVANIA

• DEPENDABLE PRESSURE VESSELS •

You can depend on Cole-built pressure vessels and tanks for a *correctness* of design and construction that assures safety and economy of maintenance.

We design, fabricate and erect vessels and tanks for the storage of liquids, gases and chemicals under pressure; refinery towers, creosoting cylinders, pulp digesters, and all forms of fabricated steel plate construction.

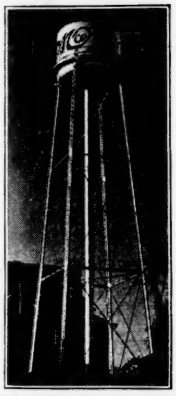
Write stating your requirements, and we'll send details and costs.

•
Tanks—Towers
Pressure Vessels
Starch Kettles
Kiers—Vats
Digesters
Boilers—Flumes
Smokestacks
Standpipes
Fabricated Steel Work
•

R.D. COLE MFG. CO.

ESTABLISHED 1854

Newnan Ga.



SOUTHLAND PRODUCTS

—WELDED OR RIVETED—

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

WELDED OR RIVETED CONSTRUCTION

This applies to field as well as shop built equipment

Write us for information and quotations

Chattanooga Boiler & Tank Co.
CHATTANOOGA, TENN.
TANKS

BOXLEY QUARRIES

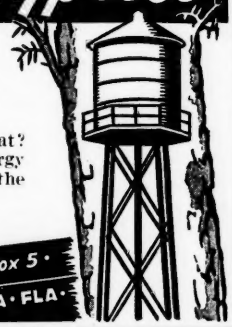
CRUSHED LIMESTONE & CRUSHED GRANITE

FOR Road Building, Concrete
Railroad Ballast, Furnace Flux
Filter Stone, Agstone
Limestone Sand

Four Plants Located on N. & W. and A. C. L. Railways
10,000 tons daily capacity

W. W. BOXLEY & COMPANY
711 Boxley Building, Roanoke 10, Va.

DAVIS *Cypress* TANKS



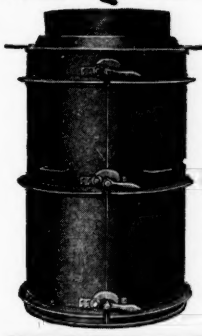
Then What?

Install a Davis tank. Then what? Well, spend your time and energy on other plant details, for the tank will take care of itself. Questions answered.

G·M·DAVIS & SON · P·O·Box 5 · PALATKA · FLA·

The "Quinn Standard"

FOR CONCRETE PIPE



The Quinn Standard is known as the best the world over, wherever concrete pipe is produced and used. Backed by over 30 years' service in the hands of hundreds of Quinn-educated contractors, municipal departments and pipe manufacturers who know from experience that Quinn pipe forms and Quinn mixing formulas combine to produce the finest concrete pipe at lowest cost.

Quinn Heavy Duty Pipe Forms

For making pipe by hand methods by either the wet or semi-dry process. Built to give more years of service—sizes for any diameter pipe from 12 to 84 inches—tongue and groove or bell end pipe—any length.

WRITE TODAY

Complete information, prices and estimates sent on request. Also manufacturers of Quinn Concrete Pipe Machines.

QUINN WIRE & IRON WORKS 1605 12th ST. BOONE, IA.

That is Missouri's position. In FRONT RANK among the nation's most advantageous industrial locations . . . . in the very CENTER of things opportunity-wise.

Consider these vital facts: Over 950 new corporations last year. New modern State Constitution. Low taxes. Unlimited water supply. Wealth of raw material and abundance of firm power. Vast pools of skilled native-born friendly labor. Rich diversified consumer market. Hub of all inland transportation. Extensive cultural and educational facilities. 350 alert communities eager and able to offer every cooperation.

Specialized, confidential service to industrialists. Write direct: Missouri State Department of Resources and Development, Dept. 703, Jefferson City, Missouri.

THE STATE OF MISSOURI
IN THE HEART OF AMERICA

Little Shop with Big Stuff

(*Continued from page* 70)

production record of sixty-eight cars a day have been run through the plant during the war. If orders permit production will again shoot for the sixty-eight per day or better.

With everyone on the job, with orders on the books, with both tracks operating, and material in the storage yards, Pullman-Standard's southernmost plant can maintain such a rate. It can become a potent factor in supplying transportation equipment to help bring the nation back to a peacetime prosperity.

Aluminum for Peace

(*Continued from page* 46)

ternational Great Northern and Texas & Pacific railroads. These consist of coaches, diners and sleeping cars—and will be built by the American Car and Foundry Company. Kansas City Southern Railroad has placed orders for 8 coaches and 8 sleeping cars with the same company. Union Pacific Railroad has also placed an order for the construction of 65 passenger cars consisting of diners, club cars and baggage cars. In all, a total of 261 aluminum passenger cars, are either in process of fabrication or on order.

In the automotive industry considerable emphasis is being placed on light alloy applications in trucks and trailers. Experiments now under way indicate the desirability of using aluminum axle housings for heavy duty vehicles.

The marine field's decided trend toward aluminum construction is exemplified in both cargo and passenger vessels. Ingalls Shipbuilding Corporation, for example, recently completed aluminum stack houses for three combination passenger and cargo ships for the Mississippi Shipbuilding Company, all now waterborne. The first of the ships launched, S.S. Del Norte, displaces 18,000 tons and utilizes approximately 40,000 pounds of aluminum in her construction. This vessel also carries aluminum life boats, swung from aluminum davits. Quarter inch aluminum sheet was used in the stack houses of these three ships. Two cargo passenger ships, now building for Bethlehem Steel Company at Alameda, California will employ 100% aluminum in the construction of their upper decks—an

innovation in marine construction.

Several states are now actively interested in the use of aluminum license plates for automobiles. Such a plate has been used by Connecticut since 1937 with highly satisfactory results. Important features are low mailing costs and economic maintenance. Rhode Island has recently adopted aluminum plates and a number of other states are considering the move.

A recent development in the piano industry is the aluminum piano plate—a product representing the culmination of many years of research. Thousands of these plates have already been cast and are being installed in pianos destined for shipment to all parts of the country. Aluminum piano plates retain the musical virtues of cast iron plates.

Hundreds of miscellaneous uses for aluminum are appearing, indicative of the increased interest which manufacturers are displaying in this versatile metal. These include everything from canoes to Christmas tree ornaments. It is expected that the months ahead may see rapidly widening fields of usefulness for aluminum as additional manufacturers discover more ways of utilizing this versatile metal.

Empire Builder, streamliner being built for the Great Northern Railway.

Mill Ownership Changes

(*Continued from page* 39)

mediately are affecting managements, mostly men who grew up in the industry. Other impacts have hit, or in the South's opinion almost inevitably will fall upon, the industry's suppliers, notably the cotton brokers, warehousemen, repair shops and bankers. The textile merchants of the North also cannot escape the change.

Through this process of integration, many cotton mills themselves and finishing plants already have been, and others may be, denied further access to long-established sources of yarns and fabrics for

(*Continued on page* 74)

Fig. 2125 Bronze Gate

you know you're buying **BETTER EQUIPMENT**

● **The installation of Lunkenheimer Valves, Lubricators, or Air Devices on power equipment is an indication that the equipment itself is of *superior construction and efficiency*.**

It's the quality-minded manufacturer who selects Lunkenheimer products for his equipment. He knows the Lunkenheimer reputation for correct engineering, advanced design, superior workmanship . . . he knows his equipment will give better performance with less trouble, when fitted with Lunkenheimer Valves or other devices.

He knows, in short, that his own product is thus given added salability, and in use will give the purchaser maximum results at minimum cost.

Whenever and wherever you purchase power equipment units, you'll be wise to look for the Lunkenheimer name on valves and lubricators —*a positive guide to value*.

THE LUNKENHEIMER COMPANY, Cincinnati 14, Ohio, U.S.A. (Offices: New York 13, Chicago 6, Boston 10, Philadelphia 7. Export Department: 318-322 Hudson Street, New York 13, N. Y.)

Fig. 16 "Renewo" Globe

Fig. 1430 Iron Body Gate

● *Perhaps YOU Have A Product That Can Be Given This Added Sales Advantage. If your products require the use of valves, lubricators, air devices, or boiler mountings, the name Lunkenheimer on such equipment will provide extra sales appeal. For further information see your nearest LUNKENHEIMER DISTRIBUTOR.*

Fig. 1834 "Alvor" Constant Level Oil Control

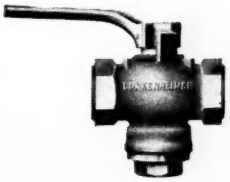


Fig. 1571 Air Cock 150 Lb. Pressure

LUNKENHEIMER VALVES

BRONZE, IRON, STEEL, AND CORROSION RESISTANT ALLOY VALVES
AIR DEVICES, LUBRICATORS, AIRCRAFT FITTINGS

Mill Ownership Changes

(*Continued from page 73*)

processing. This great readjustment is quite upsetting—and the South never has hesitated to view with alarm.

"Absentee management" always has been a fearful thing in Southern business opinion. But, since money talks and the Northern capitalists have the money, there is little that the South's business can do about this admittedly unwanted flow of New York and New England and Pennsylvania financial power into the South. Somewhat disconsolately, some Southern interests admit that only time can reveal the shake-up's ultimate effects in an industry that has been built largely by Southern pioneers through trial and error.

Deeper than that, there actually is a thread of resentment running through comments by many Southern business leaders. The integration is expected to spread its influences rather soon upon Southern economy far beyond the cotton textile industry. This resentment reveals a clash of aims in economic philosophy and an opposition to uncertainties.

Roots of this clash are, among others:

1. Fear that in the coming pinch absentee management may fail to measure up to economic stringencies and may withhold maximum effort to preserve the industrial position of raw cotton.

2. Could outside interests aim at promotion of a new phase of ascendancy for synthetic fibre processing to the detriment of cotton?

3. A unionization campaign has been declared, with ample finances promised, at a time when newly arrived managements are adopting uniformly friendly attitudes toward labor union demands in a region where native management long has sternly opposed unionization of the workers.

As regards the "famine" that will follow the present "feast," doubtful Southern business seems widely to be recalling vividly that Northern capital and management failed to preserve the Northern cotton textile industry, which largely migrated to havens in the South. And, Southern business is experienced enough to realize that failure of absentee management in a time of economic stress would be an aggravating factor of first magnitude in the fortunes of the whole South.

Furthermore, hard-headed Southern business frequently wonders how can Northern owners expect to operate with financial success a mill company for whose common stock $860 a share was paid (a total of $3,010,000) when the stock had been publicly quoted at $200 per share?

Amid this controversy, Southern business is well informed that the struggle between raw cotton and synthetic fibres rapidly is being intensified. Only a "couple of years of grace" are allowed by one authority for the South and its cotton growers to develop a cotton production program that will meet synthetics' competition. That is the firm opinion of J. A. Shanklin of Raleigh, N. C., State College cotton specialist.

Somewhat fatalistically, Mr. Shanklin adds: "Cotton always has been more or less in a state of emergency." He deplores present high cotton prices as strengthening synthetics' competitive position.

Here's another angle: "The only way for cotton to survive the competition of synthetics is to double our national yield per acre." That is the opinion of John M. Little of Union, S. C., lately president of the Atlantic Cotton Association, an organization of brokers, shippers, warehousemen and related interests. He points out that viscose rayon fiber sold at 25 cents a pound in 1939, when cotton sold at 9 cents, and rayon still sells at 25 cents, while cotton is around 27 cents.

Those two men live by the cotton growers. An outstanding figure who lives with the cotton manufacturers is even more blunt in his expressions. "It is a rather sickly picture for the Southern cotton farmer," says Dr. William P. Jacobs, president of the American Cotton Manufacturers Association. His offices are at Charlotte, N. C., in the center of the South's densest textile industrialization.

Related to those views, Ben C. Parrish of the National Cotton Council, is insistent that "the importance of scientific research in behalf of cotton cannot be overestimated."

Texas Helium Plants

(*Continued from page 41*)

Largely because of the successful Navy campaign against submarines which had menaced Allied shipping in the Atlantic, military requirements for helium declined during October 1944, and production dropped to about 10 million cubic feet monthly and continued at about that rate until VE-Day in May 1945.

Even before the defeat of Germany, however, a surplus of helium was accumulating and as a conservation move, this excess gas was piped back into the ground at the Government-owned Cliffside field near Amarillo. A 32-mile pipeline linking the Exell and Amarillo plants with the Cliffside field was placed in operation in January 1945, and in the first year after its opening, more than 35 million cubic feet of helium was placed back into the field for future use.

With the elimination of the submarine danger in the Atlantic after the defeat of Germany and improved conditions in the Pacific, the wartime job of producing helium was virtually completed and production activities at the Cunningham and Amarillo plants were suspended in July 1945. Since then, current needs have been supplied by the Exell and Otis plants.

The Amarillo plant is being maintained in standby condition for immediate resumption of production on short notice, but the war-built Cunningham plant has been dismantled and the equipment utilized in other Bureau plants or by other Government agencies. The Amarillo plant, however, continues as the headquarters for an expanding helium research program.

Two of the Navy's standard type patrol blimps set a 1,900-mile nonstop record for nonrigid airships in the summer of 1944 by flying to the Mediterranean area from Newfoundland to join six other nonrigid type craft dispatched for antisubmarine and convoy duty.

Addition to the Brunswick, Ga. plant of the

HERCULES POWDER COMPANY

ELECTRIC ARC WELDED

—::—

BETTER CONSTRUCTION AT LOWER COST

THE AETNA STEEL COMPANY, JACKSONVILLE, FLA.

STRUCTURAL STEEL *for* **BUILDINGS and BRIDGES**

Steel Tank and Miscellaneous Plate Work

Carolina Steel and Iron Company

Capacity 1200 *tons per month.*

Greensboro North Carolina

S. C. Rep. Edward McCrady, 307 Allen Bldg., Greenville, S. C.

GLAMORGAN

PIPE & FOUNDRY CO.

LYNCHBURG, VA.

C. L. FIELDER COMPANY

ROANOKE, VIRGINIA

Fabricators and Erectors of Welded Steel Structures

Specializing in

Industrial Buildings and Bridges
Steel Structures, Conveyors, Bins, Mine Structures, Misc. and Ornamental Iron, Steel Plate Products.

CREOSOTED

Piling, Poles, Lumber, Cross Arms, Cross Ties

Also Wolmanized Lumber

Decay and Termite Proof—Can Be Painted

Docks for Ocean Vessels

American Creosote Works, Inc.

New Orleans, La.

Atlantic Creosoting Co., Inc.

Norfolk, Savannah, New York

Plants at: New Orleans; Winnfield, La.; Louisville, Miss.; Savannah, Ga.; Jackson, Tenn., and Norfolk, Va.

BELMONT IRON WORKS

PHILADELPHIA NEW YORK EDDYSTONE

Southern Sales Offices, Charlotte, N. C.

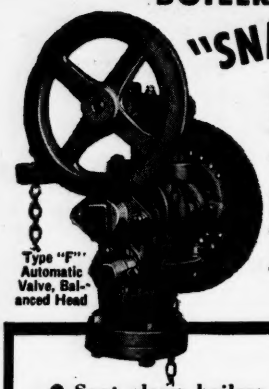
Engineers · Contractors · Exporters

STRUCTURAL STEEL
BUILDINGS AND BRIDGES
RIVETED-ARC WELDED
BELMONT INTERLOCKING
CHANNEL FLOOR

Write for Catalogue

Main Office—Philadelphia, Pa.
New York Office—44 Whitehall St.

BOILERS "SNAP OUT OF IT!"



MARION SOOT BLOWERS modernize boilers right now! They do this work:

- Increase boiler capacity and flexibility
- Save 5 to 10 percent on fuel bills
- Do the job mechanically and quickly
- Blow out soot deposits without injury to baffles

● Soot slows boilers down. *MARION SOOT BLOWERS* eliminate stubborn soot with minimum waste of steam. Type "F" for water tube boilers blows in any length of arc from 15 to 345 degrees. No lugs, stops, pawls, nor pins. "Keeps on Rollin'" to right or left as desired. Favorites with skilled engineers and power plant owners, *MARION SOOT BLOWERS* are made for all sizes and types of boilers. Parts are interchangeable. Continuous service with low replacement and repair cost.

Write for Specifications and Prices
Save Coal, Time and Worry

THE MARION LINE

Marion Machine, Foundry and Supply Co. • Marion, Indiana, U. S. A.

KEEP YOUR BELTS RUNNING

1. Inspect your belts and fastenings frequently.
2. If you find that the lacing is badly worn and the belt joint is badly frayed or worn relace the belt with Alligator Steel Belt Lacing.
3. Don't throw worn belting away. Worn belting can be reconditioned or you can easily make up a serviceable belt by cutting out the best sections of old belts and then splicing them together with Alligator Steel Belt Lacing.
4. Be sure and use the size of Alligator Steel Belt Lacing recommended for the thickness of belt to be spliced.
5. Where belts are to be laced that are wider than the standard lengths of 6, 8 or 12 inches, Alligator Belt Lacing is available in continuous lengths for any width of belt. The continuous length is easier to apply and makes a more uniform and longer lasting joint.
6. Write for our Bulletin A-60 that gives complete details on how to lace flat belts of leather, rubber, balata, canvas, from 1/16" to 5/8" thick and as wide as they come.

JUST A HAMMER TO APPLY IT

● Lacing can be applied right at the location of the belt without even taking the belt off the line shaft. Alligator has strength with long life, compression grip, is smooth on both faces and the joint is easy to take apart at any time regardless of the amount of wear.

FLEXIBLE STEEL LACING CO., 4690 Lexington St., Chicago

ALLIGATOR

STEEL BELT LACING

For more than 30 years the most universally used steel belt lacing in the world.

(*Continued from page* 68)

states that "While 73 per cent of the public agree that problems of trade between countries may often contribute to war, 65 per cent advocate in principle the regulation of international trade by a world union and 57 per cent favored the United States joining a union of nations with that understanding. When the problem is put squarely in terms of United States production and protective tariffs, however, *only a minority (28 per cent) believe this country should sacrifice certain economic interests even for the sake of a world union.*" In other words, maybe our people are getting a little tired of the old cycle of fight 'em, feed 'em, finance 'em, and fight 'em again.

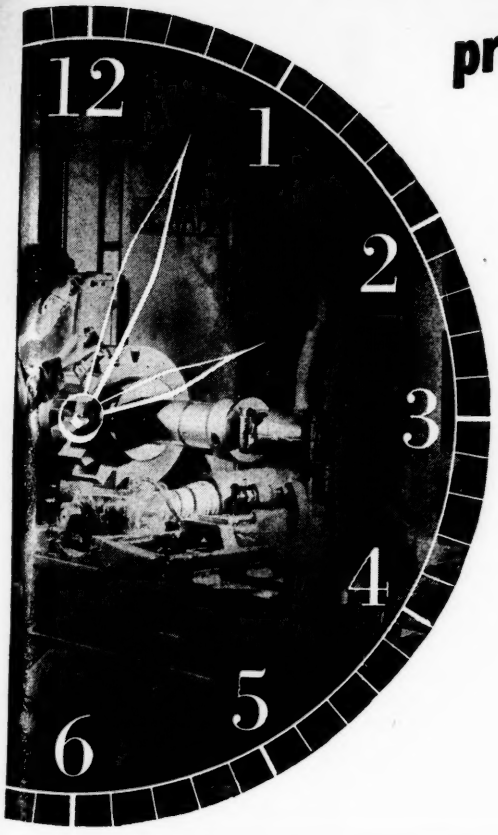
According to a Twentieth Century Fund study, America's ten most important export items prior to the war were, in order of value: cotton, tobacco, petroleum, fruits and nuts, automobiles and parts, copper, meats and fats, industrial machinery, lumber products, and furs. It is interesting to note that the top three of these are derived almost entirely from the South.

What do taxes do to incentive? Let's look at it this way. The power of an individual to spend his income as he sees fit is the incentive behind that individual's working. The individual measures, consciously or unconsciously, his income in terms of what it will buy. Thus the half dollar that a small boy gets for mowing the lawn is not a monetary unit, but ten ice cream cones.

When the government levies a tax on that income, a certain extent of it is removing the incentive provided by an individual's exercise of preference. Going back to our example of a small boy, each ten per cent of tax on his half dollar means that he gets one less ice cream cone. He'll probably continue to mow the lawn for nine, eight, or even five ice cream cones, but somewhere along the line the point will be reached where he would rather go swimming.

Congress holds the purse strings of the nation. That it holds them loosely and, worse, haphazardly, is one of the major distresses of thinking people of this country. A solution to this situation has been proposed by the joint committee on reorganization of Congress. We reproduce it here, verbatim from the report of the committee:

"That by joint action the Revenue and Appropriations committees of both Houses submit to the Congress within 60 days after each session opens (or by April 15) a concurrent resolution setting over-all Federal receipts and expenditures (estimated) for the coming fiscal year. If total expenditures recommended exceed estimated income, Congress should be required by record vote to authorize creation of additional Federal debt in the amount of the excess. All appropriations, excepting those of a permanent nature, interest on the public debt, veterans' pensions and benefits, trust expenditures, and public debt retirement, would be reduced by a uniform percentage in case total appropriations exceeded the amount of the approved budget figure."



prompt gear deliveries . . .

a leg-up for the competitive race

If you're trying to get the jump on competition through early production, early sales, early profits—and if you need gears cut to your specifications, call in Earle. By specifying Earle Gears you'll get good deliveries and a lot more. You'll get better power transmission, smooth quiet operation, maximum strength, long service life and all at a price that will help keep your product competitive. Earle cuts gears of all types to specification, in all practical materials and in diameters from inches up to 30 feet. Send us your drawings or specifications for quotation.
The Earle Gear & Machine Co., 4719 Stenton Ave., Philadelphia 44, Pa.

Sales Offices: 149 Broadway, New York 6, N. Y. • 901 Davis Ave., Pittsburgh 12, Pa.

EARLE GEARS

SPUR, BEVEL, WORM, SPIRAL, HERRINGBONE AND RACK, ETC.

1905 **Strand** 1946

FLEXIBLE SHAFT MACHINES

OUR FORTY-FIRST YEAR

High Quality Only. One hundred twenty-five types and sizes.

Type MY4—¼ H.P.

⅛ to 3 H. P.
Vertical and Horizontal

Over three hundred attachments.

One machine for many classes of work by securing various attachments to fit the job.

Rotary Files
Rotary Cutters

Type M7A—1½ H.P.

The largest exclusive manufacturers of Flexible Shaft Equipment

Type M2
¼ H.P.

SEND FOR OUR NEW CATALOG No. 29

N. A. STRAND & COMPANY

5012 NO. WOLCOTT AVE. CHICAGO 40, ILL., U.S.A.

MERCOID

THE CROSSROAD TO BETTER CONTROL PERFORMANCE

A COMPLETE LINE OF CONTROLS AVAILABLE FOR ALL AUTOMATIC HEAT REQUIREMENTS. THEY GIVE THE KIND OF SERVICE THAT MAKES SATISFIED CUSTOMERS. MERCOID TWO-WIRE SYSTEM SIMPLIFIES INSTALLATION. THE SEALED MERCURY CONTACT SWITCHES, USED IN MERCOID CONTROLS, ELIMINATE CONTACT TROUBLE

THE MERCOID CORPORATION • 4201 BELMONT AVENUE • CHICAGO • 41 • ILLINOIS

Mr. Fillet Weld

FLOORS 'EM . . . BIG OR SMALL

• Mr. Fillet Weld is a real champion when it comes to laying out open steel flooring in your plant. And, he measures up to all sizes, be they large or small areas.

***when you want a winner select* BATES • GRATES**

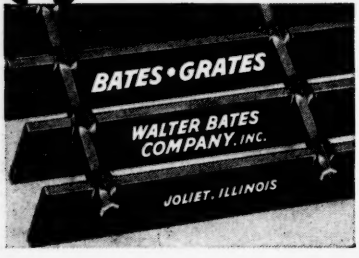
Fillet Welded **BATES** open steel flooring, with the Hex Bar design, have these outstanding qualities:

• **Longer lasting**—Fillet Welding of the Hex Bars to the main bars produces a grating which exceeds all former strength standards.

• **Safer**—the Hex Bar, Fillet Welded to the main bar, provides a clean, crisp surface for sure footing.

• **Better light and ventilation**—the Hex Bar, Fillet Welded **BATES • GRATES** design allows more light and air to come through.

for stair treads, open steel flooring, floor armor and bridge decking . . . Get a Bid from BATES



Oklahoma City Industry

(*Continued from page* 66)

in the way of the full construction tide demanded. As examples of buildings now under construction are the following: Borden Company $250,000 milk processing plant; W & W Steel Company $100,000 fabricating plant; three large automobile showrooms, at least one of which will cost $250,000. Building permits within the city limits range from $1,000,000 to $2,000,000 monthly with probably as much more within the metropolitan area outside the city limits.

Office space is 95 per cent occupied. In 1945 a total of 86 new firms of all types moved into or started operations in Oklahoma City. Within the last three years oil producing companies and allied enterprises have expanded heavily with regional production, land and geological offices predominating. Several major firms are now increasing the offices and personnel established within this period.

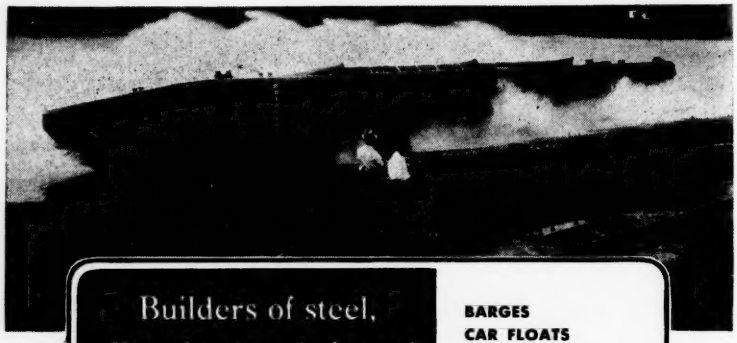
Expansion of facilities of the federal government in the city is extensive. A $5,000,000 annex to the present federal building and postoffice has been announced; a 1,000-bed Veterans' Hospital will be built soon and Veterans' Administration offices are being greatly enlarged.

In November and December, 1945, city and county bond issues totaling $25,000,000 were voted to provide new and expanded facilities for sewage disposal, storm sewers, water distribution, public schools and the city fire department. County highways, parks and a new city library are also on the construction program.

As a spur to continued industrial development a corporation capitalized at $500,000 has just been formed by local business leaders to provide made-to-order facilities for industrial operations of all types. Approximately one-third of the capitalization is already paid in. The corporation plans to develop one or more industrial districts and to erect commercial and industrial buildings for lease or sale on an amortized basis. While fostered by

(*Continued on page* 80)

All-welded sand barge of two sand compartments



Builders of steel, all-welded and riveted floating equipment for rivers and harbors.

BARGES
CAR FLOATS
PONTOONS
DERRICK HULLS
DREDGE AND TOWBOAT HULLS
STEEL DRY DOCKS
GATES
LOCKS

Ways at Ambridge, Pa., and Trenton, N. J.

AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

Offices in New York, Philadelphia, Chicago and other principal cities

Columbia Steel Company, San Francisco, *Pacific Coast Distributors*

United States Steel Export Company, New York

AMERICAN BRIDGE COMPANY — USS STEEL — UNITED STATES STEEL

UNITED STATES STEEL

"PHILADELPHIA"

CHAIN HOISTS and TROLLEYS

The Timken Malleable Iron Chain Hoist.
Built to Carry the Load.

Write for Catalogue.

PHILA. CHAIN BLOCK & MFG. CO.

Main office and factory:
Mascher and Norris Sts. Philadelphia (22), Pa.

BRANCH OFFICES:
P. O. Box 2235, Memphis (2), Tenn.
403 Bankers Mortgage Bldg., Houston, Tex.

SCREENS
of Perforated Metal
ANY METAL • ANY PERFORATION

The Harrington & King PERFORATING Co.

5631 Fillmore St., Chicago 44, Ill.
114 Liberty St., New York 6, N. Y.

SCREWS

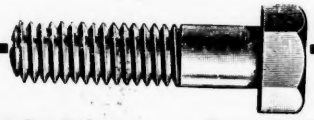
CONSULT US FIRST
OR SUBMIT BLUE PRINTS

SAMUEL J. SHIMER & SONS MILTON PA.

ERDLE PERFORATED

SHEET METALS

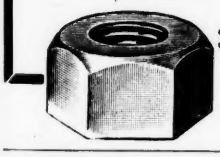
SIXTY YEARS' experience in
Metal Perforating is your assurance of
a satisfactory job.
Made to your specifications
and shipped promptly.
Metal Sample Plate on Request.
ERDLE PERFORATING COMPANY,
171 York Street *Rochester (11), N. Y.*



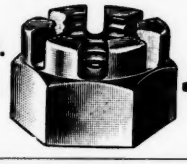
Hexagon Head Cap Screws *Hexagon Semi-Finished Nuts*

Special Screw Machine Products
to blue print or sample.

MID-WEST SCREW PRODUCTS CO.



3664 Park Ave.
St. Louis 10,
Missouri



PERFORATED METALS

For every purpose, Industrial and Ornamental

Steel, Stainless Steel, Monel Metal, Brass, Copper, Bronze, Aluminum, Zinc, Lead, Tin Plate and all other metals or materials perforated as required, and for all kinds of screens. Send for new Catalog.

CHARLES MUNDT & SONS
490 Johnston Ave., JERSEY CITY, N. J.

INCREASE YOUR HORSEPOWER WITH

PULVERIZED COAL

Reduced Fuel Bills *Guaranteed Savings*

WARRIOR UNIT PULVERIZER

MANUFACTURED BY

FUEL EFFICIENCY ENGINEERING COMPANY

Combustion Engineers

BIRMINGHAM 1, ALA.

Oklahoma City Industry

(*Continued from page 78*)

the Oklahoma City Chamber of Commerce, the corporation is strictly a profit making operation and its business will be so conducted.

The corporation was formed and plans laid for development of industrial districts after extensive surveys of similar projects in other cities. As an indication of the attitude of the city's business leaders toward industrial development here, nearly $400,000 of the $500,000 capital was subscribed at one noon luncheon about a month ago.

The list of Oklahoma City industries planning expansions includes virtually every one in the Metropolitan area. The only barrier to a tide of enlargements which would set a record in this city already noted for its rapid advancement, is the lack of new machines, parts, building supplies and current sales and pricing problems.

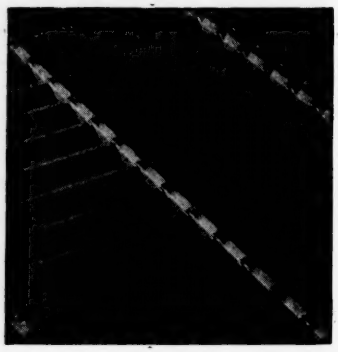
Savannah Ship Plant

(*Continued from page 49*)

W. L. Mingledorff, Jr., vice-president and general manager, says: "The Savannah Machine and Foundry Company has grown big through doing little things well. We will continue to give care, patience and accuracy, as well as promptness, to jobs entrusted to us."

With an excellent record of 29 fighting ships for Uncle Sam's Navy and numerous emergency repairs to war-damaged vessels behind them, with their permanently awarded Army and Navy E flag, with four stars, proudly displayed from its high staff, the workers of the Company challenge the South to give them the tough jobs in metal or wood.

"Steel in the W..."



GARY WELDED GRATING

Send for attractive paper-weight sample, which is yours for the asking. Catalogues upon request.

Square edge bars for safe footing.
Hexagonal cross bars for neat appearance.

Gary-Riveted Grating :: Gary Stair Treads

STANDARD STEEL SPRING COMPANY
Open Steel Floor Grating Division
2700 East Fifth Avenue, Gary, Indiana

GALVANIZING
Have it done by Philadelphia's OLDEST, the Country's LARGEST
—HOT DIP JOB GALVANIZER—
Joseph P. Cattie & Bros., Inc.
Gaul & Letterly Sts., Philadelphia, Pa.
GALVANIZED PRODUCTS FURNISHED

CONVERSE BRIDGE & STEEL CO.
Chattanooga, Tennessee
Structural Steel for all Industrial Structures, Buildings and Bridges
LARGE STOCK FOR IMMEDIATE SHIPMENT

STEEL STEEL Products
• EXPERTLY FABRICATED
• EXPERIENCED PERSONNEL

Let us bid on your post war products. A modern, well equipped plant plus experienced personnel facilitate production and keep prices low. Send us your blueprints and we will be pleased to mail you an estimate on your needs.

DIXIE MANUFACTURING COMPANY, INC. 1312 RUSSELL ST. BALTIMORE 30, MD.

Gates—Intake, Sluiceway and Spillway

Hydraulic Turbines — Francis and Propeller Types

Rack Rakes

Trash Racks

Valves—Pipe Line and Penstock

●

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

NEWPORT NEWS, VIRGINIA

"Industrial"

Machinery Manufacturers:

"Industrial" Gears come from a plant entirely devoted to the manufacture of fine gears. The tool equipment has been continuously replaced until it is now 95% new. The inspection and testing equipment is complete. Each machinist in our plant is a craftsman. Each man can set up his own machine. The plant layout is excellent, our production efficient, our shop organization capable. Our principal men have devoted their lives to the manufacture of fine gears.

The Quality and Service we offer you will reduce your assembly time. We provide you accurate gears to your exact specification when you need them.

As "Industrial" Gears become a part of your machines they increase your assurance of successful operation in the hands of users.

WRITE US on your letterhead for Catalog and Handbook

INDUSTRIAL GEAR MFG. CO. 4534 Van Buren St. Chicago 24, Illinois

MANUFACTURERS OF

Fine Cut Gears for Machinery Builders: Spur, Helical, Bevel, Mitre, Worms, Worm Gears, Racks, Silent Chain Wheels and Special Sprockets.

PENNSYLVANIA CRUSHER COMPANY

PHILADELPHIA 7, PA., Liberty Trust Building
New York - Chicago - Pittsburgh - Los Angeles

Reversible Hammer Mills
Impactors
Single Rolls
Granulators
Bradford Breakers
Bradford Hammermills
Log Washers

ALL HEAVY DUTY STEELBUILT

Crawford Sprinkler Supply Co.

ENGINEERS AND CONTRACTORS

Automatic — Sprinkler Systems
Heating, Boiler and Industrial Piping
Pipe, Valves and Fittings

P. O. BOX 28 EAST POINT, GA.

STERLING BABBITT

FOR CRUSHER BEARINGS

Bronze Inner and Outer Eccentric Bushings
Countershaft Bushings — Socket Liners

SLAB ZINC

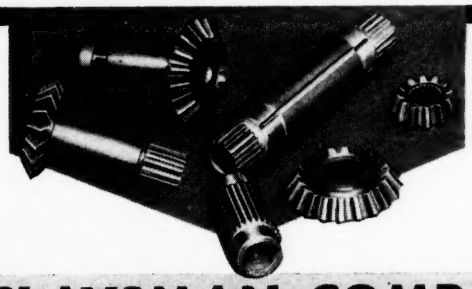
THOS. F. SEITZINGER'S SONS

SMELTERS — REFINERS — FOUNDERS

P. O. Box 1336 ATLANTA, GA.

GEARS: of ALL TYPES and COMBINATIONS and GEAR TOOTH SPECIALITIES from any metals to close tolerances can be produced to specifications of interchangeability

Simplicity of design, coupled with quality materials and engineering skill produce GEARS and SPROCKETS of accurate machining and rugged durability.



SPROCKETS: of ALL KINDS made to specifications from various metals, including Steels and Alloy Steels, Cast Iron, Bronze, Stainless and Duraluminum.

Our engineers will be glad to know of your special requirements and will submit reliable recommendations designed to increase plant efficiency at worthwhile savings. Let us hear from you.

Established 1885 **THE SLAYSMAN COMPANY** Incorporated 1937

Engineers • MANUFACTURERS OF INDUSTRIAL GEARS • *Machinists*

801-813 EAST PRATT STREET **BALTIMORE 2, MD.**

Chattanooga Research Institute

(*Continued from page 70*)

tries, agencies or individuals have a common interest, programs of research may be sponsored in which the benefits derived from investigations will become the joint property of the sponsorship group. This part of the plan makes possible large scale research over long periods at moderate cost to each.

Operation of the Institute is to be on a non-profit basis, the cost to any sponsor to be the actual cost of making the investigation—the salary of the technologists for the period of investigation, plus cost of any special materials or equipment that may be required, together with a proportionate share of the overhead and supervisory expenses.

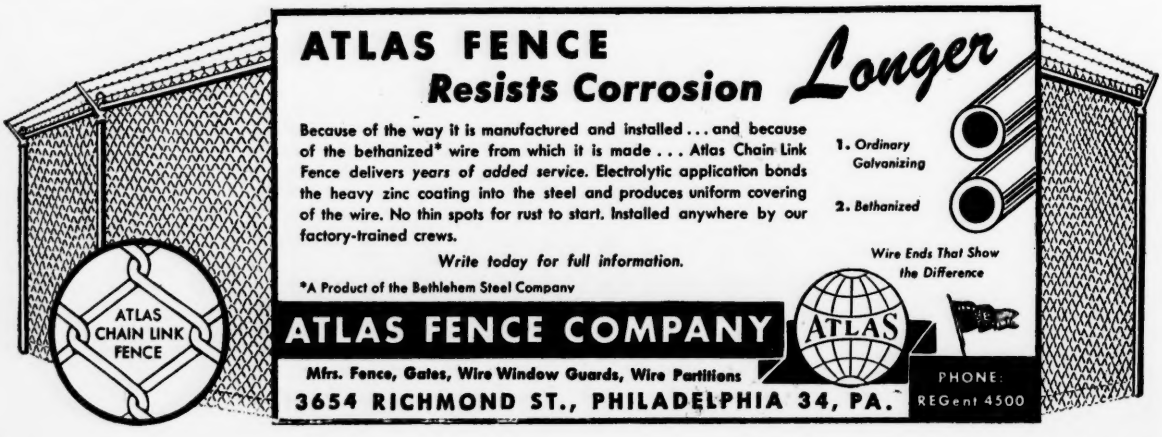
All discoveries resulting from projects financed by sponsors will be held in strict confidence, and any patents resulting from the discoveries will be assigned to the sponsoring agency. Due to this confidential aspect of projects, only one problem on a specific subject will be open for investigation at any one time. The Institute reserves the right to publish any part of the results of an investigation two years after application for any letters-patent from the United States or other countries. In cases where no patent is involved, the Institute may publish, with the consent of the sponsor and Director, the results of investigations having sufficient scientific value.

To assist the Institute in achieving its purpose, an advisory committee of community leaders has been formed, consisting of: William E. Brock, Jr., president Brock Candy Company; L. Hardwick Caldwell, president Tennessee Stove Works; Irvine W. Grote, head of the Chemistry Department of University of Chattanooga; John L. Hutcheson, vice president Peerless Woolen Mills; Joseph H. Lane, president Cavalier Corporation; W. Donald Munson, vice president Southern Chemical Cotton Company; Lupton Patten, president Chattanooga Medicine Company; Emerson P. Poste, consulting chemical engineer; and Murray Raney, president Gilman Paint and Varnish Company.

JOHNSON Wire
Every coil of Johnson Music Wire is tested by winding several coil springs from wire taken from each end of the coil. Springs must show uniform pitch when stretched to 3 or 4 times normal length. Test springs are attached to each end of the coil you receive. Here is one of the many reasons for the individuality of Johnson's XLO Music Wire.
JOHNSON STEEL & WIRE CO., INC.
WORCESTER I, MASSACHUSETTS
NEW YORK AKRON DETROIT CHICAGO LOS ANGELES TORONTO

Riverside & Dan River Statement

Net profit after taxes of $1,338,923 for the 1945 calendar year was reported to stockholders by George S. Harris, president of Riverside & Dan River Cotton Mills, Inc. After provision for the payment of the six per cent dividend on the 75,000 shares of preferred stock, this leaves earnings equivalent to $2.96 a share on the 300,000 shares of common stock.


ATLAS FENCE
Resists Corrosion
Longer
Because of the way it is manufactured and installed . . . and because of the bethanized* wire from which it is made . . . Atlas Chain Link Fence delivers years of added service. Electrolytic application bonds the heavy zinc coating into the steel and produces uniform covering of the wire. No thin spots for rust to start. Installed anywhere by our factory-trained crews.
Write today for full information.
*A Product of the Bethlehem Steel Company
1. Ordinary Galvanizing
2. Bethanized
Wire Ends That Show the Difference
ATLAS CHAIN LINK FENCE
ATLAS FENCE COMPANY
ATLAS
Mfrs. Fence, Gates, Wire Window Guards, Wire Partitions
3654 RICHMOND ST., PHILADELPHIA 34, PA.
PHONE: REGent 4500